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VOLUME 1

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EDITORIAL

STATUS OF CHLORAMPHENICOL THERAPY

THEODORE E. WOODWARD, M.D.²

Chloramphenicol is the most recent chemotherapeutic agent to arouse suspicion for deleterious effects upon man. Certain disorders of the hemopoietic system, particularly aplastic anemia, thrombopenia and pancytopenia, are said to have resulted from the ill-advised and indiscriminate use of this valuable drug. Chloramphenicol, therefore, must be listed with other useful agents such as the sulfonamides, amidopyrine and the arsenicals which have been shown to provoke undesirable side reactions, although their actual human hazard is not yet known. Moreover, penicillin and even acetyl salicylic acid are not without a certain risk.

Chloramphenicol, an antibiotic produced by fermentation and synthetic methods, possesses a nitrobenzene radical as its basic structure which is known to exert depressing effects upon the bone marrow under certain conditions. From the debut of its clinical trials, this potential hazard was realized and it was furthermore stressed that this antibiotic, like all potent drugs, should not be used promiscuously or indiscriminately, but for specific indications, for short periods of time, until cure has ensued and for a short time thereafter. Unfortunately, chloramphenicol has been much too widely employed, often without specific indication and it is undeniable that certain blood reactions have resulted from its use. Recent alarming reports in various periodicals led to a nationwide survey which was conducted by investigators of the Food and Drug Administration. It became apparent that blood disorders occurred in patients who received the antibiotic, usually repeatedly and for minor illnesses, often in patients with an allergic background. Notable among the patients who developed undesirable side reactions were physicians, relatives of physicians, nurses, pharmacists and technicians who made a practice of munching the capsules for varied non-indicated reasons. Moreover, this investigation uncovered a larger group of patients who contracted similar serious disorders of the hemopoietic system in whom chloramphenicol was *not* employed but rather other currently used chemotherapeutic drugs.

It might be of interest to the readers, particularly those unduly alarmed in Maryland, to read resolutions the National Research Council recently adopted on the recommendation of a special study group.

1. "Certain cases of serious blood dyscrasias (aplastic anemia, thrombocytopenic purpura, granulocytopenia and pancytopenia) have been associated with the administration of chloramphenicol."

¹ Recent publicity with reference to the use of Chloramphenicol Therapy seems to have been out of proportion to the problem. For that reason, Dr. Woodward has been requested by the Editor to clarify the issue.

² Associate Professor of Medicine, University of Maryland School of Medicine.

2. "Although this complication has thus far been uncommon, it is sufficiently important to warrant a warning on the label of packages of the drug and in advertisements of the drug and the recommendation that chloramphenicol not be used indiscriminately or for minor infections."
3. "When prolonged or intermittent administration is required, adequate blood studies should be carried out."
4. "In view of the paucity of information at the present time, the Conference hopes that further study of serious reactions to chloramphenicol and other drugs will be promoted. The records of the Veterans Administration and military forces could be of great value in providing some of the desired information."

The natural forces of immunity usually arrest the course of events in minor illnesses. When it becomes necessary to employ drugs in more serious infectious diseases the chemotherapeutic agent should be considered only as a supplemental aid to the more basic mechanisms of healing. Chloramphenicol, not unlike other valuable antimicrobial drugs, may be given with a certain calculated risk and certainly never as a therapeutic panacea.

AMERICAN MEDICAL EDUCATION FOUNDATION

Hiram W. Jones, Executive Secretary

The National Fund for Medical Education will make a Class "A" grant to each of the seventy-nine medical schools in the United States on July 31, 1952.

Class "A" grant amounts to \$15,000.00 for each four-year school and \$7,500.00 for each two-year school. The total amount to be distributed will approximate \$1,132,500.00

The following report of the Reference Committee on Medical Education and Hospitals was unanimously adopted by the House of Delegates of the American Medical Association on June 11, 1952:

Your Reference Committee commends the excellent report of Dr. Henderson, President of the American Medical Education Foundation. Your Reference Committee believes that the American Medical Education Foundation deserves and should have the unqualified support of all members of the American Medical Association. Many of the constituent state medical societies have set up committees for the collection of funds from their members in addition to making a substantial contribution to the Foundation from their own funds. Your Reference Committee urges that similar committees be formed in the state societies where this has not been done. The large sums collected by some state and county medical societies is an indication of what can be accomplished when the importance of this laudable undertaking is brought to the attention of each individual member of the Association. Your Reference Committee believes that those who adhere to the basic concepts of democracy should support the tenets of democracy not only with words but with deeds.

Respectfully submitted,

Edgar V. Allen, M.D.
Charles H. Phifer, M.D.
John J. Masterson, M.D.
Charles G. Hayden, M.D.

SPECIAL CURRENT NOTICES

STATEWIDE STUDY OF PREMATURE INFANTS—THE GESELL DEVELOPMENTAL EXAMINATIONS

Following is a letter dated October 2, 1952, which was received by Dr. George H. Yeager, Secretary of the Medical and Chirurgical Faculty:

This is an open letter to thank the physicians of Maryland for their cooperation in the statewide study of premature infants and to describe the Gesell developmental examinations which will start during October.

You will recall that this study is being undertaken by the Division of Maternal and Child Health of the Johns Hopkins University with the endorsement of the Medical and Chirurgical Faculty and other groups. In accord with plans previously announced in the State Medical Journal and in letters to each physician in the state, the developmental examinations will be limited to about 500 prematures and an equal number of full-term babies in Baltimore City. The plan is to follow these two groups into their school years to determine if the prematurely born infant has an equal chance of developing normally or, if not, what are his handicaps and what can be done to prevent or lessen them.

It is clear that the use of representative groups is essential to validate a study of this sort. In order to get such groups, the babies for this part of the study will be selected automatically on the basis of such criteria as race, place of residence, and place of birth. Since only about 500 prematures and 500 full-term control babies can be followed, it is clear that most physicians will have only one or two babies in this part of the study. The importance of the controls cannot be emphasized too much. We realize that occasionally a patient of yours who presents a special

problem will be among those automatically selected. Please let us know if there is any information about such a patient which you wish us to have. We assure you that we will do everything in our power to make the visit of your patients pleasant and worthwhile.

The Gesell examination will be the first step in the long time follow up study. It will be for diagnosis only; the information obtained will be confidential and a report will be sent to the child's physician. The infant's parents will be referred to their physician for all advice.

A letter will be sent to the physician and to the parents of each premature infant and of each control who is selected for this part of the study. These letters will describe the examination and will assure the parent that the visit to the Study Center on Rutland Avenue will be pleasant and will appear to the baby to be a matter of playing with toys. Family physicians will be cordially welcome at the examination of their patients if they wish to attend.

In closing, I would again express appreciation for the extraordinary cooperation with the first part of the study. We already have received the forms on over 3,000 babies which is more than 90% of the prematures born in Maryland during the first nine months of this year.

Sincerely yours,

PAUL HARPER, M.D.
THE JOHNS HOPKINS UNIVERSITY
SCHOOL OF HYGIENE AND PUBLIC
HEALTH
615 North Wolfe Street
Baltimore 5, Maryland

Scientific Papers

SYMPOSIUM ON THE USE AND MISUSE OF BLOOD TRANSFUSION IN SURGERY¹

DR. I. RIDGEWAY TRIMBLE, CHAIRMAN: First of all we are indebted to Dr. Kimberly and his program committee for this very interesting program he has arranged tonight. We are particularly glad to welcome Dr. Allen from Chicago and our own Dr. Conley, both of them are authorities on their subjects, and I'll introduce them as they appear on the program.

Dr. J. Garrott Allen is a Professor at the University of Chicago, is a graduate of Harvard Medical School, Class of 1938; originally comes from Elkins, West Virginia. After graduating from Harvard, he went out to the University of Chicago and has been in Chicago since that time and is now serving on the staff of Dr. Lester Dragstedt, who is Chairman of Surgery there. Dr. Dragstedt succeeded the late Dr. Phemister. Most of you know Dr. Phemister died suddenly the last part of December and all of us here wish to express our deepest sympathy to Dr. Allen and to the University of Chicago in the tragic loss of this great man. Dr. Allen is a general surgeon interested in general surgery and vascular surgery and interested in the blood in particular in all its stages. He won a medal, as many of you know, at the

AMA meeting in 1948. He has been interested in Vitamin K and prothrombin and liver function, among many other things.

He has time—as somehow everyone seems to have out there—to pursue experimental work as well as to do regular work, something we'd like to see more of here and all other places. We, who are busy seem to pursue limited objectives. We don't have time to think as much as we should. The people who are really contributing to medicine and to all its branches are the ones, as we reflect over the years who spare a little time in which they can think and take inventory, something that we sadly lack. I don't know how he does it because he is so busy in his general surgical work as well as experimental work. I know Dr. Allen was also interested in radiation injury and worked a lot on that in the war, a subject which of course is of paramount importance at the present time.

It is a great favor of him to come here; he is one of the most outstanding of the younger surgeons in the country at the present time, and it gives me great pleasure to introduce him, Dr. Allen.

POOLED PLASMA AND HOMOLOGOUS SERUM JAUNDICE²

J. GARROTT ALLEN, M.D.

Many of the recent advances in surgery have been made possible through the proper use of blood and plasma transfusion. Full appreciation of the therapeutic value of these fluids in surgery was not realized until the pioneering work of Doctor Blalock of this city and Doctor Phemister of Chicago became generally known. As with

all therapeutic agents, however, some of the limitations and consequences of the administration of blood and plasma did not become apparent until considerable clinical experience had evolved. One of these I wish to relate tonight.

There are few segments in medical history more intriguing, both in folk lore and in fact, than is the history of blood transfusion. No important progress in this field was possible before Harvey's discovery of the circulation in 1616 and 1628. Shortly thereafter Lohr provided the first documented evidence of transfusion, transfusing blood from one dog to another. Lohr's initial

¹ Presented before a joint meeting of the Baltimore City Medical Society and the Section on Surgery, on Friday, February 15, 1952, at the Medical and Chirurgical Faculty Building, 1211 Cathedral Street, Baltimore 1, Maryland.

² This paper was given before the Baltimore City Medical Society under the title, "The Cause and Prevention of Homologous Serum Jaundice."

experiments gave evidence of unusual insight for his day into the problems of the hydrodynamics of the circulation. Before transfusing his dogs, he withdrew from the recipient animals a volume of blood equal to that which they were to receive. His experimental observations were immediately applied to man, where in a period of five years, so much difficulty was encountered, including fatal reactions, that transfusions were shortly prohibited by law both in England and France. During the next two-hundred and thirty years transfusions were surreptitiously administered on occasion with frequent disastrous results that were sporadically interspersed with enough dramatically beneficial ones to keep alive an active interest in the field. Reactions remained the rule rather than the exception as indicated in a remark by Doctor Halsted. In his first surgical paper written in 1883 on the subject of monoxide poisoning, he described such a transfusion reaction as "The usual post-transfusion rigors lasted for half an hour." (1). Such reactions were tolerated as characteristic of the procedures and in many instances were pyrogenic in nature. But the frequency of fatalities incurred was sufficiently impressive that the fear of transfusions was not easily overcome by Landsteiner's immortal work of 1901 which laid the background for the typing and cross-matching procedures making blood transfusions a safe clinical procedure some ten years before his principles were applied. Landsteiner's second great contribution to this field came about nearly forty years later, when he described the Rh factor. The broad clinical applications of the contributions of Harvey and Landsteiner are probably not exceeded, if indeed equalled, by any other contribution to mankind in medicine.

Another milestone in the development of blood transfusion was the introduction of sodium citrate as an anticoagulant which was to make transfusion a leisurely and orderly procedure. Huston, Lewisohn and Agote, all as independent observers, reported on citrated blood transfusion

within a period of a few months in 1914 and 1915 (2). These observations eventually led to the introduction of banked blood and made possible transfusions of plasma. Once these major problems were overcome, the risk of blood and plasma transfusions was largely abolished, and these fluids became routine in treatment of shock, malnutrition and certain types of anemia.

In the middle of World War I Rous and Turner (3) recognized the importance of preserving blood for prolonged periods of time in order that it could be stock-piled for the war emergency. These investigators and Robinson (4) found that citrated blood could be preserved for nearly a month when glucose was added. Their reports, however, lay dormant for twenty-two years when this problem was re-investigated by the DeGowin (5) and others.

Because plasma can be stored indefinitely in the lyophilized state in contrast to whole blood, plasma became the fluid of choice for stockpiling in event of emergency need. Attesting to its success are the fifteen million units of plasma prepared during World War II. As a matter of production expediency, plasma from many donors was pooled and then redistributed into smaller units suitable for human use. Although none denied the beneficial effects of plasma administration in the treatment and prevention of shock, out of this vast experience came the recognition of a virus disease transmitted by plasma transfusion—*homologous serum jaundice*. The reported attack rate of homologous serum jaundice following the administration of pooled plasma has ranged between two and twenty per cent of patients transfused. The attack rate of homologous serum jaundice continues to persist within this range to date. All attempts thus far to kill the virus in plasma have failed. Among the methods tried without success have been the exposure of plasma to ultraviolet light, ionizing irradiation and to the chemical action of the nitrogen mustards. Because this problem remains unsolved and because of the serious con-

sequences of homologous serum jaundice, plasma has fallen into disrepute and is used only as an emergency measure when blood is not readily available in the treatment of shock.

The attack rate of homologous serum jaundice following blood transfusion is much less than that experienced for pooled plasma. For blood, the incidence ranges between 0.1 and 0.5 per cent. The reason for the increased attack rate for plasma is related to the practice of pooling. The virus carrier rate among the population at large is such that approximately one donor of every one hundred and fifty carries the disease. Consequently, the larger the pool of plasma, the greater the possibility that one donor may be a carrier of the virus and that his plasma will contaminate the entire pool. Therefore, it has been recommended that the donor population of pooled plasma not exceed five. In event of emergency, vast amounts of plasma will be required and large pools will have to be employed to expedite production. In such an event, the benefits of plasma outweigh the hazards of the complications of homologous serum jaundice.

At the University of Chicago Clinics, we have not observed homologous serum jaundice in our patients receiving plasma that could be attributed to the administration of our own plasma. We have, however, recognized this complication following the administration of blood transfusions in twenty-six patients. An analysis of these data have been presented elsewhere (6). This experience has differed from those of others who have reported the attack rate of homologous serum jaundice from pooled plasma transfusions to be ten to fifty times greater than that of blood. We recognized this disparity of experience in 1947 and sought an explanation. A number of questions had to be answered before our observations could be accepted as valid and a plausible explanation offered. In the first place, because homologous serum jaundice does not usually develop until after the patient has left the hospital, it was essential to establish that patients re-

ceiving our pooled plasma had not developed latent jaundice. In consequence, more than 5,000 patients' records were screened to determine their fates. It was also necessary to establish firmly that in those patients who developed latent jaundice, the disease was homologous serum jaundice and not the jaundice of extensive malignant disease, cirrhosis, etc. Two criteria proved helpful: (1) histologic study of liver tissue obtained by needle or surgical biopsy or at autopsy, and (2) the clinical syndrome of hepatitis with jaundice in which the patient spontaneously re-

TABLE 1
Exposure Data

	No. Patients Transfused	Total No. Exposures	Average No. Donors Pt. Exp. To
Blood Only.....	7,893	28,549	3.6
Blood and Plasma.....	726	13,490	53.0
Plasma.....	234	9,860	44.0

covered. Excluded from our series were patients who developed jaundice which progressed until death and whose jaundice was proved to be malignant disease or cirrhosis as established by operative or autopsy findings. The syndrome of so-called "subclinical" homologous serum hepatitis without jaundice was excluded because of its nebulous and ephemeral character. Proceeding on these grounds, the information tabulated in Table 1 appears to validate our impression that patients receiving our own plasma did not develop this disease.

Seeking an explanation for our apparent good fortune, our attention focused upon the method of preparation of plasma as employed in our blood bank. From the beginning of our blood bank, the plasma we prepared was stored in a liquid state at room temperatures ranging between 26° and 35° C. for three months or longer before use. This procedure was employed because we were unable to secure a deep freeze apparatus at the time our blood bank was instituted in September of 1942. The time interval was chosen

because under these conditions there is considerable deterioration in the titre of iso-agglutinins, a desirable situation in minimizing plasma reactions. Under these conditions of plasma storage, the product proved suitable and safe for the prevention and treatment of shock and malnutrition. Undoubtedly plasma, under these conditions, undergoes certain physical and chemical changes when stored indefinitely at room temperature in the liquid state. Whatever these changes may be, clinical experience proved them to be of little significance over this three-year period.

An analysis of the reports on homologous serum jaundice from pooled plasma as they appear in the literature, discloses that in every instance the disease had been produced by plasma stored in the lyophilized (dried), frozen or refrigerated states. Often such data were not contained in the report and had to be obtained by correspondence with the author. It should be stressed, however, that few if any other blood banks employed the room temperature storage of liquid plasma during this same period of time, so that an evaluation of our data in the light of those of others is not yet warranted. However, it should also be pointed out that we, like others, were forced to discontinue the use of "war surplus" dried plasma because of the high incidence of homologous serum jaundice we encountered.

Why should the storage of liquid plasma at room temperature for three months or longer apparently avoid complication of homologous serum jaundice? Again with no personal background of information pertaining to the survival rates of viruses, a search of the literature pertaining to thirty-three viruses known to be pathogenic for man was undertaken in the hope the resistant qualities to these various methods of storage might suggest an answer to our observations. In every instance in which information was available for a particular virus, lyophilization, freezing or refrigeration favored

prolonged virus survival (Table 2). Storage at room temperature and at a liquid cell-free state, on the other hand, without fail resulted in a rapid loss of virus activity within a few hours to a few days, even when the same agent may have remained virulent in the lyophilized, deep frozen or refrigerated states for several weeks to several years. This situation is well summarized by Topley and Wilson (7) who state, "Most viruses appear to be very resistant to cold. Frozen and dried, they may live for many months. Survival in saline or Ringer's solution varies considerably. In the ice box many viruses will survive a long time, but most of them perish rapidly if kept at room temperature or 37° C." Similar statements were found in many isolated reports dealing with special problems in virology where it was necessary for the investigator to find some suitable method for the storage of his viral agent when he wished to preserve it for study from day to day. There can be no doubt that the virus of homologous serum jaundice withstands lyophilization, deep freezing and refrigeration for prolonged periods of time since all of the reports of homologous serum jaundice relating to plasma transfusion resulted from plasma stored under one of these three conditions. Since these are the best methods for the preservation of any viral agent, it is apparent that these methods of plasma storage contribute to the preservation of the virus and to the perpetuation of the disease. It is equally obvious that if these methods for plasma storage are continued, some method must be found to render plasma free of viral activity before the product is stored under any one of these three conditions.

Is the storage of plasma at room temperature as we have employed it adequate to destroy the virus of homologous serum jaundice? Our data do not permit a conclusive answer to this problem although they weigh heavily on the positive side. In this connection, the following information is available: 13,490 units of liquid room-stored plasma have been administered to 960

TABLE 2
Survival Characteristics of Thirty-Three Viruses under Various Conditions

Note that in every instance where data are available lyophilizing, deep freezing or refrigerating favors prolonged virus survival, whereas room temperature storage in a liquid cell-free media is uniformly detrimental.

Virus	To 0° Cold	0°-37° Room Range	37° Up Heat	Freezing-Drying	Physical Agents	Phenol	Glycerol	pH Change	Other Chemical Agents
Rabies	T* > 1 yr. at < 0°	> 24 hr. at 4°	< 1 hr. at 56°	several yrs.	UVL destroys	Very resistant	Weeks at room temp. months at refrig.		Formalin, HgCl ₂ Acid & bases de- stroy KMnO ₄ & HgCl ₂ several hrs. sur- vival > 30' 1:1,000,000 chlorine
Poliomyelitis	T > 12 mos.		T 3' at 50° > 30' at 56° < 10 hrs. at 60° in albumin	Preserved	< 3' to oxidants & UVL	T > 10 days in 1%		pH 4-10 stable	
Infective Hepatitis									
Serum Hepatitis									
Common Cold	- days at °								
Atypical Pneumonia									
Influenza	> 5 mos. at -76°	< few hrs. at room temp. > 1 mo. 5° if bul- fered	< 5' at 56°	Preserved	UVL destroys	< 1 wk. in 0.5%		pH 6.5 - 7.8 stable	Formaldehyde de- stroys
Smallpox	Stable at -70° Stable at -20° Stable at -10°	> 1 yr. at room temp. if dried	< 30' at 55°	Stable	Stable to Drying		50% - stable		
Vaccinia				Stable	Destroyed by UVL, X-ray & light		Stable in gly. if re- frigerated		Destroyed by dyes. Inhibited by penicillin & am- ino acids & anti- septics < 36 hrs. in 0.1% formalin
Psittacosis	> 2 yr. at -70°	several wks. at 4°	10' at 60°		< 36 hrs. in 0.5%		10-20 days in bul- fered 50% glyc- erine at 4° < 7-14 days in 50%		< 30' in 10% ether 24-48 hr. in 0.1% formalin T < 30' in 10% ether
Lymphogranuloma ve- nerum	> 1 yr. at -30°- -70°	2-4 days at 31°	< 10' at 56°		< 30' to UVL	24-48 hr. in 0.5%			
Trachoma	< 1 week at re- frig.		> 15' at 45°		Killed by drying, freezing, thaw- ing		1 wk. in 50%		
Inclusion conjunctivitis	< several days at refrig.				Killed rapidly by drying		< Several days in 50%		Sulfonamides cure in vivo - un- affected in vitro > 40' in 10% ether
Measles	< 4 wks. at -72° 4 wks. at -35° Several days at 0° > 1 yr. at -70°	> 34 hrs. at room temp.		> 15 wks.					
Herpes simplex									Inactivated by methylene blue and light
Epidemic keratocon- junctivitis	Stable at -70°						> 1 yr. in 50% at 8°		
Mumps	> 10 mos. at -70°	> 2 mos. at 4° < 4 days at room temp.	< 20' at 55-60°		Inactivated by UVL		Stable in 50%		Inactivated by 0.1 % formalin

* T Virus in tissue suspension. All others in saline or aqueous solutions where medium is not specified. Data of this table abstracted from Rivers et al. (8) and Topley and Wilson (7).

* T Virus in tissue suspension. All others in saline or aqueous solutions where medium is not specified. Data of this table abstracted from Rivers et al. (8) and Topley and Wilson (7).

patients. Each patient receiving pooled plasma was on the average exposed to 48 donors. None of these patients were known to have developed jaundice attributed to the plasma given. During the same period 28,549 units of blood were administered to 7,893 patients, 26 of whom came down with the classical picture of the disease. Seventy-two per cent of the patients receiving plasma were observed in the clinic from four to six months or longer. Sixty-six per cent of the patients receiving blood were observed for similar periods.

Of the plasma group, twenty-two patients received large volumes of plasma representing donor populations of 200 to 726. This group of patients were under a clinical study relating to the nutritive value of plasma and all were followed for six months or longer. None developed detectable evidence of jaundice. The patient who received 726 donors suffered from hypoglobulinemia and had little or no detectable gamma globulin. This patient should have been more susceptible than usual to the disease. On the basis of the carrier rate for homologous serum jaundice presumed to exist in this country, at least eleven of these twenty-two patients should have come down with the disease. While these patients serve as strong supporting evidence that the virus of homologous serum jaundice is non-pathogenic after prolonged storage in a liquid cell-free state at room temperature, they, too are not conclusive. The final answer to the room temperature storage problem can only be established when plasma known to contain the virus is divided into two lots, one of which is stored at room temperature for three months or longer and the other of which is stored for similar lengths of time but in the lyophilized or frozen state, and then samples of these two types of plasmas administered to human volunteers. An experimental procedure of this type, however should be conducted by the appropriate authorities who have conducted similar experiments in the past.

Since all efforts thus far to render pooled

plasma free of the active virus of homologous serum jaundice have failed, should we continue the procedures of lyophilization, deep freezing or refrigerating plasma? The assembled evidence clearly condemns these procedures as favorable for the transmission of the disease, and soundly establishes the fact that under these conditions of storage the virus does survive. On the other hand, our own data lack the absolute proof that is necessary to suggest that the room temperature storage of plasma method should be substituted for the currently employed procedures. Moreover, it is but a matter of time until some method will be found to kill the virus of homologous serum jaundice before plasma is stored. When such a procedure is established, we can resume the storage of plasma in the lyophilized, deep frozen or refrigerated states without fear of the preservation of homologous serum jaundice.

The method of the storage of plasma in a liquid state at room temperature is not applicable to whole blood, as blood will hemolyze within a day or two and is no longer suitable for transfusion purposes. In the second place, the only method for the cultivation of viruses is their incubation in warm temperatures in the presence of living cells. Thus on two counts room temperature storage is unsuitable for whole blood.

SUMMARY

1. The procedures of lyophilizing (drying), deep freezing or refrigerating plasma are favorable to the prolonged preservation of viruses, including the virus of homologous serum jaundice. Since all methods (including ultraviolet irradiation) to kill the virus in plasma have failed, these procedures of plasma storage should be continued only with full knowledge that they also preserve the virus if it is present.

2. Viruses do not withstand prolonged room temperature storage in a liquid cell-free state. Experience with liquid plasma stored at room temperature for three months or longer suggests

that this procedure will reduce if not abolish the incidence of homologous serum jaundice from plasma.

3. The virus of homologous serum jaundice appears to survive from one to three years in dried plasma stored at room temperature.

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DR. TRIMBLE: Thank you very much indeed, sir, for this most comprehensive and most timely, most authoritative talk on this very important disease. I hope that during the comments later, that perhaps Dr. Allen will tell us something he knows about the problem that exists now in the Armed Forces in Korea. For example, they are having so much trouble with these reactions such as homologous serum jaundice following the use of pooled plasma. However, I'll delay the discussion of this paper until we hear from Dr. Conley.

DR. I. RIDGEWAY TRIMBLE: Our own resident of the City of Baltimore, Dr. C. Lockard Conley, is named after the great friend of his family, Dr. Carroll Lockard. Many of you knew that beloved physician who died a year and a half ago. Dr. Conley is now Associate Professor of Medicine at Johns Hopkins University, he is in charge of hematological diseases, particularly hemorrhagic disorders. He graduated in Medicine from the Physicians and Surgeons College in New York, then interned at the Presbyterian Hospital there, and later went into the Army Medical Corps and worked there in aviation physiology before coming to Hopkins. So we are deeply proud of Dr. Conley and I look forward to hearing him on this program.

UNTOWARD REACTIONS FROM BLOOD TRANSFUSIONS

C. LOCKARD CONLEY, M.D.

Early attempts to transfuse blood were frustrated by the unpredictable occurrence of serious or fatal reactions. The discovery of the blood groups by Landsteiner at the turn of the century for the first time provided an explanation for these unfortunate reactions. His observations established a sound basis for the safe administration of blood. The first World War gave a strong impetus to the use of transfusions, and at that time stored blood was first used. However, it was the development of the blood bank in the late 1930's which made possible the present day large scale use of blood transfusions.

With the development of modern techniques for handling blood and testing for compatibility, serious immediate reactions to transfusions are rare. For this reason, transfusions have become

so commonplace that they are often given on relatively slight indication. In the past few years, however, we have come to learn that blood is not always so innocuous. We recognize now that serious or troublesome late complications not infrequently follow the administration of blood. The risks of transfusion are relatively slight in comparison to its benefits in many situations. However, the risks are sufficiently great to make transfusion inadvisable in conditions in which no real need for administration of blood exists.

Some of the most serious complications of transfusion are ascribable to human error. The methods currently available for typing and cross-matching blood are so precise that, theoretically, incompatible blood should never be administered. Although most hospitals have set up elabo-

rate precautionary routines to prevent such accidents, an occasional patient does receive the wrong bottle of blood. The conscious patient most often will display a prompt reaction to the infusion of relatively small amounts of incompatible blood, and usually the transfusion can be discontinued before serious damage has been done. On the other hand, a patient whose activity is depressed, as by general anesthesia, may receive large amounts of incompatible blood before an untoward reaction is observed. Shaking chill, so prominent a feature of the reaction in an alert patient, does not occur in the anesthetized individual. A drop in blood pressure may provide the first evidence of an incompatible transfusion reaction. In a patient undergoing surgery, the significance of this shock-like state may easily be misinterpreted and the transfusion continued. In some patients the initial shock is very profound, and requires treatment with transfusion of compatible blood. An occasional patient will die during the initial period of shock, but most survive this phase.

Patients receiving a large amount of incompatible blood may develop a remarkable hemorrhagic tendency. The sudden occurrence of diffuse abnormal bleeding may be the first manifestation of an incompatible transfusion. In a recent report by Muirhead (1), 9 of 37 patients who received incompatible blood displayed this hemorrhagic disorder. Bleeding may be very severe and virtually impossible to control. Until recently hemostatic dysfunction had not been elucidated. Last year we had an opportunity to study a case of this type. Dr. Grant Ward was performing a breast operation on a middle-aged woman. During the course of the operation a blood transfusion was started. Shortly thereafter, blood began to ooze from the wound. Diffuse bleeding became serious and uncontrollable. The patient's blood pressure dropped to very low levels, and the operation had to be terminated. Several additional transfusions were given in rapid succession in an effort to combat the hemorrhage and shock. Dr. Ward noted the

relationship of the abnormal bleeding to the administration of the first transfusion, and requested that the cross-matching be rechecked. It was discovered that the blood used in the first transfusion was incompatible. Study of the patient's blood showed the presence of serious coagulation defects. There was a profound reduction of the prothrombin concentration of the blood to a value less than 20% of normal. Plasma fibrinogen was reduced to 21 mgm. per 100 ml., about one-tenth the normal value. The platelets had decreased to less than 100,000 per cmm. There was no heparin or other anticoagulant in the patient's blood. This observation was of special interest because it has been suggested by others that the appearance of heparin in the blood might be the cause of this hemorrhagic disorder. The coagulation defects in this patient were very similar to those which we have produced experimentally by the intravenous infusion of thromboplastin in dogs. Furthermore, the infusion of hemolyzed blood into dogs may give rise to a similar hemorrhagic state (2), a phenomenon which we have been studying. It is apparent from the nature of the blood abnormalities that the treatment of this condition consists of the transfusion of large amounts of compatible blood. Following the administration of several transfusions to the patient studied, there was a progressive rise in prothrombin and fibrinogen values over a period of hours, and abnormal bleeding stopped. Although the prothrombin and fibrinogen concentrations promptly returned to normal, thrombocytopenia persisted for several days.

The administration of even small amounts of incompatible blood leads to prompt intravascular hemolysis of the injected cells. The appearance of hemoglobin in the plasma is good evidence for this occurrence. When a patient develops a chill, febrile response or other reaction suggesting the possibility of an incompatible transfusion, a sample of the patient's blood should be centrifuged to determine if the supernatant plasma is hemolyzed. This simple procedure aids

in the differentiation of incompatible blood reaction from more benign responses which occur fairly frequently, and in which hemolysis of red cells does not occur. The appearance of large amounts of hemoglobin in the plasma is followed by excretion of the pigment in the urine. The urine following an incompatible transfusion is sometimes red in color, but most often is dark brown or almost black because of the presence of altered hemoglobin. It is important to remember that the hemoglobin has been released from the red cells and is in solution in the urine. It can be readily identified by the use of the benzidine or guaiac test, but the urinary sediment may be normal. The appearance of dark urine immediately following a blood transfusion is very suggestive of a hemolytic reaction. In some patients, the reaction is limited to the hemoglobinuria and prompt recovery occurs without further complication.

In many instances, however, severe impairment of renal function occurs, and production of urine may cease entirely. The renal shutdown may persist for several days, and often continues for 2 weeks or more. During this period when the kidneys are not functioning, there is the development of progressive nitrogen retention and the usual other evidences of uremia. The phase of renal shutdown is potentially very serious, and the patient may die of renal insufficiency. There is a strong temptation on the part of the physician to resort to heroic efforts to restore renal function. Many of these patients have received intravenous infusion of hypo- or hypertonic solution in an effort to "open" the kidneys. The use of such solutions has unquestionably hastened the death of many of these patients. With the kidneys not functioning, the normal compensatory mechanisms by which the osmotic and electrolyte status of the blood is maintained is lost. It is, therefore, important to avoid the administration of fluid or electrolytes, either orally or parenterally, if these substances might further distort the chemical pattern of the blood. The lower nephron nephrosis which follows in-

compatible transfusion is most often a self-limited condition. The main object of therapy, therefore, is to keep the patient alive until kidney function is restored. A number of very dramatic procedures have been used in an effort to substitute for renal excretion during this period of anuria. The use of the artificial kidney is one approach. Peritoneal lavage has been employed to remove accumulated nitrogenous and other end products of metabolism. Exchange transfusions have been used to accomplish the same result. In the average case, however, it seems that these elaborate procedures are unnecessary. A conservative method of treatment suggested by Bull and his associates (3) in 1949 has now had a fairly extensive trial, and has given results which appear to be better than those obtained with most other methods. The basis of the treatment is the administration only of sufficient water to make up for the daily extra-renal loss, plus calories in the form of fat and carbohydrate. No electrolytes are administered, since none are being lost, and protein is avoided in order to avoid accumulation of the end products of protein metabolism. In practice, a stomach or duodenal tube is introduced. The patient receives by steady drip through the tube the following mixture:

Glucose	400 gm.
Peanut oil	100 gm.
Acacia	q. s. to emulsify
Water	to 1 liter

This formula is given each day. If the patient vomits, the vomitus is strained and added to the tube feeding mixture in order to prevent loss of electrolytes. In this way, serious disturbance of water and electrolytes can be prevented during the period of anuria. No parenteral fluid is given. When urine flow begins, there is usually production of large quantities of urine of low specific gravity. It is then necessary to add sufficient water and electrolytes to make up for the urinary loss. Although the initial water output may be very large, totalling several liters per

day, impairment of nitrogen excretion persists, so that protein intake should remain low until the NPN has fallen. With this regimen, patients may be maintained in a fair state of general health. A high percentage of patients with complete anuria due to incompatible blood have recovered when treated by this method, even though no urine was produced for two weeks or more.

The patient previously described, who developed a hemorrhagic state following the administration of incompatible blood, subsequently developed complete anuria. She produced virtually no urine for two weeks. She was treated by the tube feeding method under the supervision of Dr. John Eager Howard. On this regimen the NPN rose to a maximum of 242 mgm. per 100 ml. on the 18th day. There was a rise in serum potassium and decline of the CO_2 and chloride, but electrolyte alterations were surprisingly slight. The period of anuria was followed by increasing urinary output until there was pronounced polyuria. During this phase, the NPN gradually decreased. Anemia developed during the episode of nitrogen retention, and was treated by transfusion. The patient has subsequently shown good recovery, although there was prolonged evidence of impairment of renal function. Fortunately, our experience with transfusion reactions of this type is extremely limited. However, we are much impressed by the advantages of the method of therapy which I have described.

Some transfusion reactions are so mild that it may not be recognized that incompatible blood has been given. This is particularly likely to be the case when there is intragroup incompatibility. Thus, a patient who has Rh antibodies in his blood may show only a mild febrile reaction if blood of incompatible Rh type is given. However, the administration of the incompatible blood may cause the patient's antibody titer to rise, so that a subsequent transfusion of the same blood may lead to a more serious reaction. Rh incompatibility is less easy

to detect than ABO incompatibility, since it is usually not evident in the routine cross-matching. An example will illustrate the difficulties which may occur. One of our patients required repeated transfusions. The patient had been found to be Rh negative. However, when given transfusions of Rh negative blood she often had a severe chill and febrile response. The cross-matchings showed no agglutination, and it was not immediately recognized that the blood administered was incompatible. More careful study provided the explanation for the reactions. The patient had developed in her plasma an antibody against Rh'. Rh' is one of the minor Rh factors which is not routinely tested. A donor whose blood is said to be Rh negative (i.e. Rh^o negative) may actually be Rh' positive. Such blood, when administered to the patient in question, caused the untoward reaction. Incompatibilities of this type are readily detected if the cross-matching is done with the red cells suspended in serum or in albumin solution instead of the usual saline suspension. Some authorities recommend that cross-matchings routinely be performed in serum in order that incompatibilities due to so-called incomplete antibodies may be detected.

When febrile reactions occur, it is important to exclude the possibility of incompatibility. However, most febrile responses to transfusion cannot be accounted for on this basis. Usually these reactions have no serious consequences. An extremely serious situation has been described in which the reaction is caused by bacterial contamination of the blood administered. If the apparatus in which the blood is collected is not properly sterilized, non-pathogenic organisms may proliferate in the blood. When this blood is administered, a pronounced reaction occurs, with marked chill and fever, and profound shock. The response resembles an incompatible transfusion reaction, but examination of the plasma and urine shows no evidence of hemolysis. Death may occur in a few hours. Accidents of this type are apparently very rare, but the possi-

bility of their occurrence indicates the importance of carefully maintaining the sterility of stored blood.

A curious incident of transfusion which has interested Dr. Sherman Mellinkoff and myself is the occasional occurrence of curious infiltrations in the lungs. We have seen several patients who have developed fever following transfusion and have been found to have rales in the lungs. X-rays taken immediately after the transfusion have shown areas of opacity which then clear very rapidly. The picture is not that of the usual pulmonary edema, and Dr. David Gould, roentgenologist, feels that the x-ray changes might be best explained on the basis of an allergic reaction involving the lungs.

True pulmonary edema has often been induced by the administration of blood to a patient in incipient heart failure. In transfusing patients with lessened myocardial reserve, it is wise to keep the rate of infusion slow. There is a great advantage in decanting the plasma from the bottle of blood and injecting only the red cells. In this way the volume of fluid administered is kept at a minimum, and pulmonary edema is not so likely to occur.

In certain other instances it is advisable to remove the plasma and to transfuse only the red cells. This may be true in any situation in which it is desired to correct anemia without enlarging the plasma volume. In some rare disorders, patients react unfavorably to the infusion of plasma, whereas washed red cells may be well tolerated.

Minor allergic reactions to transfusion are common. Urticaria is the most frequent manifestation. Bronchospasm and asthmatic breathing are much less often encountered. These allergic symptoms are ordinarily easily controlled by the use of antihistaminics, adrenalin and related drugs. Hypersensitive individuals may have more serious reactions. One of our patients with a Henoch-Schonlein type of purpura developed an alarming hemorrhagic angioneurotic

edema during the administration of a blood transfusion.

An important danger of transfusions which has been recognized only in recent years is the possibility of sensitizing individuals to the Rh factor. If Rh positive blood is administered to an Rh negative subject, antibodies against the Rh factor may develop. If the patient concerned happens to be a female who subsequently bears an Rh positive fetus, there is the real possibility of the occurrence of hemolytic disease of the newborn. The almost universal performance of routine Rh typing should make this unfortunate complication an infrequent occurrence in the future.

One important late complication of the administration of multiple transfusions is the development of hemochromatosis. This is a condition not likely to be encountered by surgeons, but it is seen occasionally in patients who receive many transfusions for anemia not caused by blood loss. A pint of blood contains about 250 milligrams of iron. There is no mechanism of excretion of iron from the body once it has been absorbed, and iron can be lost only by blood loss. The iron administered in the form of blood transfusion is therefore permanently retained in the body of an individual who is not bleeding. When large numbers of transfusions are given, relatively enormous amounts of iron are deposited, particularly in the liver, spleen, and glandular structures. Typical pigment cirrhosis of the liver may develop, and in addition, the involvement of the pancreas may give rise to diabetes. The clinical as well as the anatomical features are essentially identical with those seen in "idiopathic" hemochromatosis. A number of our patients with prolonged refractory or hemolytic anemia have developed this syndrome.

At the present time, by far the most common serious complication of transfusion is the transmission of disease. A variety of infectious agents can be transmitted by this means. Proper screening of donors largely eliminates the possibility of infecting the recipient with syphilis, malaria, and other easily recognizable diseases. In a rare

instance, certain other serious infections may inadvertently be transmitted. We have seen one patient develop fatal typhus fever following transfusion of blood from a donor who had recovered from the disease in another country many months before.

The most grave danger of transfusion today is the possibility of transmission of hepatitis. The incidence of homologous serum jaundice is distressingly high. We encounter it so frequently that when we see a jaundiced patient, one of our first questions is "when was he transfused." A study carried out by Drs. Ratnoff and Mirick (4) at the Johns Hopkins Hospital indicated that one of each 330 patients transfused in that hospital during the period of study returned with hepatitis after transfusion. Undoubtedly many others developed jaundice but were not readmitted. One patient is known to have died of hepatitis among each 1400 patients transfused.

Of 40 cases of homologous serum jaundice following transfusion, there were 11 deaths in this series. It is apparent that until the problem of homologous serum jaundice can be satisfactorily overcome, physicians should be conservative in their use of transfusions.

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DR. TRIMBLE: I'm sure that the section on Surgery is equally grateful to you Dr. Conley for your splendid paper. We wish to thank you for it.

DISCUSSION

DR. TRIMBLE: These two papers are now open to discussion. Does anybody have any questions?

DR. PETERS: The hour is growing late but I do wish to express my appreciation of the talk of Dr. Allen. There is the stimulating idea of something new there. I might in a moment have a question to ask Dr. Conley. In the event of hemolytic transfusion reactions there may well come a time when suppression of urine occurs and at that stage there is apt to develop high hysteria—not only of the relatives but even of the doctors and many dramatic therapies have been advocated in the past. I can remember quite a number of years back that such a situation occurred in the first Rh case—and I must add that from our clinic at the Mercy Hospital, the first Rh cases did emanate. In one case there was anuria for about eight or nine days and after the use of a rather simple procedure, splanchnic block, the patient voided large quantities and went on to make a satisfactory recovery. I later, then, wrote an article on splanchnic block.

Since that time, as Dr. Conley has mentioned, the more conservative therapy of Bull and others has come into vogue very definitely.

I think I remember that in 1948 or 1949, Dr. Conley wrote an article in the *American Journal of Clinical Pathology* and he was possibly among the first advocating exchange transfusions in an adult for hemolytic transfusion reactions and with presumably very good results. I do know that in more recent years,—with a better concept of the course of the condition and the results of proper conservative treatment, I have at times hung my head over the earlier advocacy of splanchnic block and felt it may well have been pretty much poppycock. However, not many months ago I received an autographed copy of a reprint from Australia. This man, after his introductory paragraph, said that "Peters was the first to bring forth in the English language the use of splanchnic block" and then presented a case ascribing recovery to the method. I presume the only conclusion here is that "the evil

we do lives on after us." I might now ask Dr. Conley whether many have reported their experience and success to him in using replacement transfusions.

The only other comment I can make is that Dr. Allen, in very correctly mentioning the "father of all blood groups" Landsteiner who first described three main groups in 1901, implied that he also described the Rh factor before his death. This is not strictly accurate and again brings my memory back to the initial Rh business. Dr. Landsteiner, working with Weiner, did define a new agglutinin from work done on animals—from the reaction of Rhesus monkey blood with guinea pigs or rabbits but that work lay unnamed in the laboratory of Dr. Alexander Weiner. When I took our clinical cases with an irregular agglutinin to Dr. Weiner he found it was identical to the agglutinin found by animal work and it was then that the first article on "Rh" was written,—my part being largely the humble one of defining the clinical aspect of the cases. I still remember going to New York just before publication of the article and still get a slight thrill at the tiny bit of reflected glory in that Dr. Weiner called me to ask my opinion as to whether we had not better call the agglutinin "Rh" rather than agglutinin "Y" as was initially intended. I can still remember that, with my comparative ignorance and his profound knowledge of blood group serology, I was humbly delighted for him to call it anything he desired.

DR. TRIMBLE: Dr. Ravitch?

DR. RAVITCH: These were splendid papers and it is hard to realize how few years ago we were pleading for the use of more and more blood for more and more people on smaller and smaller indications. Now it has gotten to the point where it almost seems unsafe to transfuse anybody at all. Of course that isn't so, we are using something like eight thousand bottles of blood a year in our hospital but only about six or seven hundred half pints of plasma a year, so we are using very much less plasma now than we were using some time back. As far as the danger of

homologous serum jaundice is concerned—and it is now the only disease we worry about—syphilis has disappeared partly because everybody sick enough to get blood is sick enough to get so much penicillin that no self-respecting treponeme would survive in his bloodstream and partly because the treponema dies in the icebox during the period of storage, and malaria just hasn't turned out to be the problem that we thought it would after the war. But homologous serum jaundice is still a very great problem and perhaps the biggest problem is the fact that it survives both in blood and in plasma. We use so much more blood than we do plasma and almost none of the methods which are applicable or may be applicable to the destruction of the infectious agent in plasma are applicable to its destruction in blood.

We have had a good many of the cases which Dr. Conley mentioned in our series originating from blood, sometimes from just a single blood transfusion. I wonder if Dr. Allen knows what the experience of the Armed Forces in the early part of the war and just before the war was with liquid plasma stored at room temperature. Commander Newhouser and the then Captain Kendrick, I believe, prepared liquid plasma for the use of the Armed Forces in the States. They were sending lyophilized plasma overseas; the facilities were limited and all the plasma used in this country at that time in the Armed Forces was liquid plasma. Now, it may be the demand was so great and the supply so small that it wasn't stored very long. Dr. Conley's remarks were fascinating to me. I'd only like to ask him whether he could comment on the recently suggested use—at least Dr. Champlyons, Professor of Surgery at Birmingham, Alabama told me of it—of salt-free human albumin as a specific for the hemorrhagic diathesis followed transfusion of mismatched blood.

DR. TRIMBLE: If there are no other comments or questions, I'll ask the speakers to close. First, Dr. Allen.

DR. ALLEN: Colonel Kendrick informed me

that at the beginning of World War II a large volume of plasma was stored at room temperature and administered, but neither he nor Capt. Newhouser had information regarding whether this product produced homologous serum jaundice.

When we originally became aware of the possibility that the virus of homologous serum jaundice died out after prolonged storage in a liquid state at room temperature, we collected all the data we had available at that time and held it for nearly two years before submitting it for publication. Our delay in publication was occasioned by the desire to obtain the opinions of a number of virologists in this country as to the validity of our thesis. In addition, the original data were circulated among a number of men who had worked for many years in the field of homologous serum jaundice. For their wise counsel I am deeply indebted. One of the interesting outgrowths of this correspondence came from Doctor W. D. A. Maycock of the British Ministry of Health, to whom I wrote to obtain information regarding the method of storage of several types of human immune sera distributed by the British Ministry of Health during the late 1930's. From these sera came several reports of homologous serum jaundice and it was necessary to establish how these particular products had been stored. I told him of our thesis and why I was interested in obtaining the information requested. He reported that these sera had been refrigerated. In the course of his letter he stated that the Australians had stored pooled plasma at room temperature and had encountered a 2.7 per cent incidence of homologous serum jaundice. At Doctor Maycock's suggestion, I contacted Doctor R. J. Walsh at Sydney who was in charge of the Red Cross Blood Transfusion Service which at that time supplied all plasma for Australia. Doctor Walsh verified the incidence of homologous serum jaundice but informed me that their product at the time of his writing, July 7, 1950, had been frozen and that it was shipped throughout the Australian continent in

the frozen state. There was further opportunity to verify Doctor Walsh's statements by Doctor K. W. Starr also of Sydney who visited our hospital a few days after I had heard from Doctor Walsh. In addition, Doctor Carl Moore of Washington University in Saint Louis informed me last December that they had administered some 4,000 units of liquid plasma stored at room temperature and were unaware of the development of homologous serum jaundice in their patients. Doctor J. J. Griffiths of the Blood Bank of Dade County, Inc. states that in over 7,000 units of plasma given after storage at room temperature for prolonged periods of time in a liquid state, they have received no reports of the development of homologous serum jaundice.

Again I wish to emphasize that while these data, as well as the theoretical considerations, weigh heavily in favor of the virus "dying out" in liquid plasma stored at room temperature, they do not produce the factual proof necessary to make the evidence conclusive. On the other hand, evidence is conclusive that the virus of homologous serum jaundice withstands readily lyophilizing, deep freezing or refrigerating, and that these methods of storage probably perpetuate transmission of the disease in such plasma.

DR. TRIMBLE: Thank you Dr. Allen. Now Dr. Conley?

DR. CONLEY: It is a great pleasure to be able to disclaim any responsibility at all for either having performed exchange transfusion or having written about it in the treatment of renal shutdown. I had nothing to do with that. The only exchange transfusions that I have ever seen used in adults were given in the treatment of acute leukemia, and I was much impressed by the difficulties and problems associated with the carrying out of the procedure and think the more conservative method of therapy would certainly be more preferable.

In regard to Dr. Ravich's question with reference to the use of serum albumin in the treatment of hemorrhagic disorder associated with incompatible transfusion reaction, I can only say

that if the case we studied is representative of the group, you would certainly not expect that albumin would be helpful since the fraction does not contain either prothrombin, fibrinogen or platelets. Unfortunately we have not had an opportunity to study any other similar cases. We would be delighted to study a group if Dr. Ravich would arrange to make them available to us.

DR. TRIMBLE: Thank you, Dr. Conley. Now Dr. McLanahan will you take over?

DR. McLANAHAN: It is my pleasure to conclude this meeting and to thank Dr. Trimble and Dr. Kimberly for arranging this program, and to thank particularly again our two essayists of the evening.

We are adjourned.

LARGE HEMORRHAGES FROM THE BOWEL OF OBSCURE ORIGIN

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The problem considered in this paper may perhaps best be approached by several negations. It does not concern the frequent passage of relatively small quantities of fresh blood, such as occurs in a number of lesions of the anal canal and lower rectum. It does not deal with cases chiefly characterized by the associated vomiting of blood, nor does it consider large hemorrhages from the bowel of a fairly obvious nature. On the positive side, the following may be presented as a fairly characteristic picture of the condition under discussion. A patient apparently quite well, and certainly not known to be suffering from any alimentary tract disorder, is suddenly seized with an urgent desire to defecate. Instead of stool, however, there is passed a large quantity of blood. This may vary in color from bright red to tarry. Accompanying this movement there is often faintness, dizziness, and sometimes actual syncope. With this there may be nausea or vomiting. There is usually no abdominal pain, although some peristaltic cramps may precede and accompany the evacuations. There are often one or two less copious passages of blood after the first one. The patient is left weak, pale, and shaky with a rapidly developed

secondary anemia and a rapid pulse and low blood pressure. This then is the general clinical picture. Certain questions at once arise. How common is such an occurrence? How serious is it? How should it be dealt with? The purpose of this paper is to attempt to answer some, at least, of these questions.

Such cases are fortunately not frequent, and yet they are by no means rare. Most surgeons, and many general practitioners can recall at least one or two instances of this sort, and many will have had a more extensive experience. It so happened that the writer encountered nine such cases in one year, and was stimulated by this rather unusual coincidence to review his whole record and the records of the hospitals in which he works over a period of some ten years. The material thus accumulated has been published in a previous paper. With certain additions it provides the data for this article. The number of cases herewith reported is 79. These cases may be divided into three major groups, which will be considered more in detail later.

The question of how serious these cases may be will of course be made evident by the further discussion, but at this point it may be said that

most of them recover under proper care, although a few undoubtedly succumb in spite of any treatment. It should be stated here that a fair number of such patients give a history of one or more similar attacks previously recovered from.

The handling of such cases involves two principal efforts. The treatment of the immediate condition and the discovery of the cause of the bleeding. The former objective is of course the more urgent. The writer has developed the following method of *immediate treatment*, which is not advanced dogmatically but has proved satisfactory in practice. Surgical attack is not seriously considered in the early stages of the illness. The poor condition of the patient and the unknown location and nature of the lesion are sufficient reasons for this decision. Such patients should not be subjected to an exploratory celiotomy that would very possibly be fruitless. The patient should be put to bed at once, with the feet elevated. Morphine hypodermically is probably useful. If the hemoglobin shows a reduction to or below 60 per cent, and if the systolic blood pressure falls below 90, a transfusion of whole blood is given. In most instances this may not be absolutely necessary, but it is the most effective and rapid restorative of the general condition. Giving the blood slowly, and not in larger quantities than 500 cc., has not been followed by harmful effects, except in one instance where a sharp chill and reaction occurred in spite of a very good match. One of the cases herewith recorded is reported to have died after a transfusion given elsewhere for a subsequent attack of bleeding, but whether there was any causal relation between the transfusion and the death is not known. The often expressed fear that transfusion may cause renewed bleeding has not been realized in practice. All food by mouth should be stopped, and only small amounts of water allowed. Intravenous fluids sufficient to keep water balance are administered. The inclusion of plasma in such fluids has been adopted in the past years and is believed

to be helpful. In the great majority of cases the bleeding stops within 48 hours and the patient is rapidly rehabilitated from the early low level of the initial shock. However, such patients often require two to three weeks for complete restoration, and during this time look pale and are weak. Some of them lose as much as ten pounds in weight.

The *diagnostic study* of the case, except for such innocuous procedures as careful history taking, gentle abdominal examination, and rectal palpation, is best postponed until the up-turn in the general condition is well advanced. Then a sigmoidoscopic examination, a barium enema and gastrointestinal roentgenologic study are in order. Blood studies to exclude thrombocytopenia, or other significant abnormalities, are also carried out.

As a result of the diagnostic efforts, the cases may be divided into three groups: In the first, which in my experience is the smallest group, a definite lesion, such as a duodenal ulcer, may be discovered that is adequate to explain the bleeding. In the second group, there may be found certain anomalies, not usually associated with gross hemorrhage, but which may *perhaps* be regarded as responsible for the bleeding. Of these, multiple diverticulosis has occurred several times in this series of cases. The third group, the most interesting and largest, remains completely obscure. The history, the clinical study, and the various special investigations, including roentgenologic examination, reveal nothing of significance. The existence of this considerable group of cases is the conclusive reason against early operation. Operation under such condition is a pure "shot in the dark." Of course in those instances where a lesion of distinctly surgical nature is discovered, the definitive treatment after restorative measures, is operative removal.

The subsequent history of these patients is interesting. A considerable number of them *do not bleed again*. Others may bleed after long intervals of freedom—in one case in this series the interval was 20 years. Still others may be

subject to recurrent hemorrhages a number of months apart. As these recurrent cases may also belong in the group with no diagnosed lesion, the decision as to further treatment becomes very difficult. Should one sit helplessly by and let the grave hemorrhages continue, or submit the patient to an abdominal exploration that may prove fruitless? For experience has shown that even the most searching explorations may fail to disclose the source of the bleeding. Indeed, autopsy in the rare fatal cases has sometimes been reported as inconclusive in its findings. On the other hand, sometimes an exploration will reveal, and permit the removal of a lesion, that escaped detection in the study of the case. This possibility, and the natural disinclination to a course of merely passive waiting in the hope that nature may effect a cure, will usually lead to the decision to explore the recurrent cases, and to this attitude there can be no serious objection. Exactly when to operate, and after how much provocation in the form of repeated bleeding, must remain a matter of individual judgment.

The lesions that may be suspected or proved to be the cause of the bleeding form a considerable and heterogeneous list. In the collected cases on which this report is based, the following lesions were encountered in the group with proved cause; carcinoma of the stomach, ulcer of the stomach, ulcer of the duodenum, cyst of duodenum, diverticulosis of duodenum, cirrhosis of liver with esophageal varices, or with portal thrombosis, acute gastro-enteritis, and regional ileitis, Meckel's diverticulum, carcinoma of the colon, ruptured vessel in the rectal wall, lymphoid leukemia, myeloid leukemia, hemophilia, familial telangiectasis. These lesions were demonstrated, either at operation, at autopsy, or by unequivocal findings. Other authors have reported, as additional proved causes, intestinal polypi and other tumors, hemangioma, trauma from ingested bodies, aneurysms, intestinal reduplications, cholecystitis, and the administration of large amounts of aspirin over a long

period, which may produce a hypo-prothrombinemia.

In the group in which conditions were found that might be regarded as possible or probable causes of the bleeding, the following occurred in my collection of cases; dilated blood-vessels found in bowel at operation, history of polypi removed from bowel previously, but none currently demonstrable, hypertensive disease with arteriosclerosis, a number of cases of diverticulosis of the colon, cases with suggestive history of past duodenal ulcer, but no actual proof of it.

The largest group of the reported cases, some 34 in number, were those in which careful study failed to reveal any reason for the bleeding. A number of these cases were explored surgically, some of them more than once, still without throwing any light on the cause of the hemorrhage. The existence of this numerous and puzzling category of clinical cases is the chief reason for calling attention to this baffling problem. It may be of interest to quote the experience of a well-known surgeon related to me personally. Over a period of time he had encountered four of these patients with unexplained large melena. He had explored them all, and found in each case a definite lesion, which was successfully removed, and the patient was cured. He had about decided that the alleged difficulty with such cases was a myth, and that the simple and obvious treatment was to explore, find, and remove the trouble. Then he proceeded to apply this doctrine to the next four cases in his experience, and in each instance the exploratory operation failed completely to reveal any cause for the bleeding. This surgeon now supports the views expressed in this paper.

The cases herewith recorded are too few and too heterogeneous for statistical study, but certain facts are evident. The patients were of all ages, of both sexes, and included both Negroes and whites. The patients with proved causes of bleeding present a variety of lesions, some of which may have been present but undiscovered in some of the unexplained cases. The fairly

numerous cases of diverticulosis of the colon, associated with bleeding, may indicate that hemorrhage into the bowel is a more common occurrence in this condition than is generally believed. Similar bleeding must be recognized as an occasional symptom of the rarer conditions reported among the proved cases. The outstanding observation, however, is the quite considerable group of patients with large melena in whom careful and extensive study failed to reveal any explanation of the source or cause of the hemorrhage.

SUMMARY AND CONCLUSIONS

(1) Report is made of a collection of cases in which the presenting symptom was large hemorrhage, passed per rectum, of obscure origin.

(2) The opinion is expressed that restorative treatment followed by careful study is the proper immediate treatment, and that early operation should not be advised.

(3) These cases may be divided into three groups: (a) Those in which study reveals the definite cause of the bleeding; (b) those in which a lesion is discovered that perhaps accounts for bleeding; and (c) those where exhaustive search fails to show any explanation.

(4) The subsequent history of these patients with no detectable lesion may be free from any further bleeding, or subsequent hemorrhages may occur at varying intervals.

(5) Surgical treatment should be carried out when a lesion of the type amenable to operation is definitely diagnosed after adequate study. Where recurrent bleeding is associated with a lesion that *might* be responsible, and this lesion is suitable for surgical intervention, operation should be advised. In the cases that remain completely unexplained, operation is only a resort of desperation in the face of repeated grave hemorrhages. Such an operation may still fail to discover or relieve the trouble.

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NAME AND ADDRESS OF THE FEDERAL SECURITY AGENCY REGIONAL MEDICAL DIRECTOR

A. M. A., Capitol Clinic, Vol. 3, No. 32, August 12, 1952

Region 3 (District of Columbia, Maryland, North Carolina, Virginia, West Virginia, Puerto Rico, Virgin Islands)—Dr. Albert L. Chapman, Room 2023, Federal Security Building, Washington 25, D. C.

WOMAN'S AUXILIARY TO THE BALTIMORE CITY MEDICAL SOCIETY

Doctor, Please Take This Home To Your Wife!

The Woman's Auxiliary cordially invites you to attend its meeting on Wednesday, December 3rd, at 11:00 A. M., at 1211 Cathedral Street, Baltimore.

Mr. John B. Farrell, former Assistant Director of Probation for Baltimore County, will speak on "The Drinking Factor in Juvenile Delinquency". A Buffet Luncheon will follow.

ARTICLES OF INTEREST

MUTINY FOR A BOUNTY*

EDWARD F. LEWISON, M.D.

"True courage consists not in blindly overlooking an injustice, but in recognizing it and remedying it."

The cost of medical reprints has risen to a ridiculous figure. Even the best of these published records of achievement is hardly equal to its prohibitive price. If doctors cannot be entirely spared this exorbitance, they might at least be better protected. The premium placed upon medical men in ordering reprints regardless of their purpose—ambition, vanity or the dissemination of knowledge—is certainly excessive. Perhaps a personal experience but one common, I am sure, to all contributors will more vividly point up the problem.

Some time after the war one of the editors of a flourishing and eminently respectable surgical journal suggested that I prepare a review article concerning one of the currently fashionable diseases of the day in which I was particularly interested. Naively I consented and with a low index of suspicion and a high index of eagerness I wistfully went to work culling the current and not so current literature. Several years and many hapless hours later this collectanea finally appeared in print.

Now although I am by no means a prolific contributor to the medical press, I am sufficiently well aware of the high cost of authorship to know that a profusive pen can pauperize any physician with a flair for foolscap. Thus, in this instance I was content to order a pittance of reprints of this somewhat lengthy 30 page review. Knowing full well that no

person is less competent to judge the number of reprints to be ordered than the author himself, I was more pleased than astonished to find requests coming in by the score long after my supply was exhausted. The limitation of my judgment in these matters is all too apparent in the dusty stacks of past reprints that have remained uncalled for while littering my shelves for years.

However, not long afterward I was shocked to receive a bill for reprints which amounted to almost *one dollar apiece*. These reprints were of standard size, without covers, and included no extra-cost illustrations. As a practicing surgeon without benefit of Federal subsidy or the auspices of departmental patronage this charge, to say the least, appeared to be a fairly flossy figure even for fine rhetoric. Upon inquiring whether this bill might not be in error, I was told by the publisher in tones of honeyed humbug that reprints are sold to physicians at "cost" without profit to the journal. What the publisher neglected to say was what he meant by the word "cost." Does "cost" merely mean the price of paper and printing alone or does it include virtually the whole gamut of a fancy figured business, namely, publishing? It seems scarcely right to charge contributors of free material with a "cost" that more properly belongs to business expense, advertising, distribution, and the like. The subscription price or the profits of selling advertising space should rightly bear this burden alone.

As a surgeon I am naturally quite in the dark about the financial set-up of the publishing business, but there must be "gold-in-them-thar-galleys" or there wouldn't be so many periodicals. Perhaps authors and publishers never see an eye to an eye with regard to reprints because each is looking at the field from opposite ends of the scope. However, certain journals do attempt a reconciliation of the two points of view. To cite but one example, "Cancer" is a bimonthly periodical, priced at a premium but handsomely printed and edited by a star studded editorial staff. Yet, even without the El Dorado of advertising this journal's publishing firm compensates contributors by granting them a gratuity of 100 free reprints.

* EDITOR'S NOTE: Medical and Scientific Journals which must rely wholly on subscriptions to meet publication costs are hardly in a position to supply reprints without cost. CANCER is subsidized by the American Cancer Society, and the subsidy is considered an effective part of the Society's professional education program because it makes possible a wider distribution (due to lower subscription rate) than would be achieved otherwise. The subsidy amounts to \$12,000 per year.

This subsidy makes it possible to supply a limited number of reprints to authors, which again in the interests of better medical communications is held to be a legitimate enterprise of the American Cancer Society.

Thus, the author's contribution is made by giving himself, might not the publisher's bounty be as blessed?

P.S. I regret that due to circumstances with which I am not in accord *no* requests for reprints of "Mutiny For A Bounty" can be honored.

THE CASE OF THE UNITED STATES VERSUS THE HOXSEY CANCER CLINIC

Opinion of the United States Court of Appeals for the Fifth Circuit

The following is quoted from a letter received from Mr. C. W. Crawford, Commissioner of Food and Drugs, Federal Security Agency, Food and Drug Administration, Washington 25, D. C.

You may be interested in the enclosed opinion of the U. S. Court of Appeals for the Fifth Circuit in the case of *U. S. v. Hoxsey Cancer Clinic, a Partnership, and Harry M. Hoxsey, an Individual*. This opinion is the result of an appeal in a vigorously contested case tried in the U. S. District Court at Dallas, Texas. It reverses the judgment of the trial Judge (William H. Atwell, N. Dist. of Texas) and directs that Court to issue an injunction prohibiting the defendants from distributing in interstate commerce brownish-black, and pink, liquids intended for the treatment of cancer in man.

In many parts of the country, people are taking the Hoxsey medicines in the belief that they may be an effective treatment for cancer. Friends and relatives of cancer victims frequently query local physicians concerning this treatment. You may wish to publish information about this case so that physicians will have the facts at

hand concerning these drugs, in the event of such inquiries.

The following important principles are laid down in the Circuit Court opinion, based on testimony by cancer experts.

1. "**** there is only one reliable and accurate means of determining whether what is thought to be cancer is, in truth and fact, actually cancer. This requires a biopsy, a microscopic examination of a piece of tissue removed from the infected and diseased region."
2. "**** the opinion of a layman as to whether he has, or had, cancer, or a like opinion as to whether he has been cured and no longer bears the disease, if, in fact, it ever actually existed, is entitled to little, if any, weight."
3. "**** despite the vast and continuous research which has been conducted into the cause of, and possible cure for, cancer the aggregate of medical experience and qualified experts recognize in the treatment of internal cancer only the methods of surgery, X-ray, radium and some of the radio-active by-products of atomic bomb production."
4. "**** Upon such subjects a Court should not be so blind and deaf as to fail to see, hear and understand the import and effect of such matters of general public knowledge and acceptance, especially where they are established by the overwhelming weight of disinterested testimony****."

The Hoxsey Clinic is located in Dallas, Texas, and ships its drugs to patients in many other States. According to the unanimous opinion of the Court of Appeals, consisting of Judges Russell, Hutcheson, and Rives, "the overwhelming weight of the credible evidence requires a conclusion that the representation that the Hoxsey liquid medicines are efficacious in the cure of cancer is *** false and misleading. The evidence as a whole does not support the finding of the trial Court that 'some it cures, and some it does not cure, and some it relieves somewhat.'"

Under the law the defendants still have the right to petition for review by the U. S. Supreme Court.

* * * * *

ANNOUNCEMENT FROM THE AMERICAN DIABETES ASSOCIATION

Prize for Paper on Diabetes by Medical Students and Interns

The American Diabetes Association offers a \$250.00 prize to *medical students and interns* for a paper on any subject relating to diabetes. The paper can be a report of original studies, a biographical or historical note, a case report with suitable comment, or a review of the literature.

Manuscripts must be submitted on or before April 1, 1953, to the Editorial Offices of *DIABETES: The Journal of the American Diabetes Association*, 11 West 42nd Street, New York 36, New York. The papers will be reviewed by the Editorial Board, which will take into consideration the value of the material and method of presentation in selecting the best paper.

Component Medical Societies

ALLEGANY-GARRETT COUNTY MEDICAL SOCIETY

LESLIE E. DAUGHERTY, M.D.

Journal Representative

The following statistics and instructions were submitted by Dr. Leslie E. Daugherty, Medical Director of Civil Defense in Allegany County:

A direct hit from an atomic bomb on Cumberland is possible, but not probable.

The possibility must always confront us and what it would mean should never be dismissed from our future plans.

A direct hit would kill 40,000, the entire population of Cumberland, 80,000 of the surrounding area would need hospitalization, 1600 of which would be known diabetics. Another 1600 have diabetes, that is undiagnosed. Thirty thousand would need outpatient care. Fifty thousand would be evacuees from Baltimore, Pittsburgh and between towns and country-side and uninjured.

This means that the area of direct hit would have a radius of two and a half miles, where everything would be destroyed. Not a bit of evidence of any living thing would be visible, but the parched earth.

Of the injured 80,000, approximately 3200 would have their diabetes worsened and require immediate insulin. Supplies of insulin will and are being stock-piled in this area for immediate use. Sufficient quantities will be available for every diabetic. But, first everyone in this area must know whether he has diabetes or not, because diabetes is made worse by injury or infection and everyone should immediately have his or her urine tested for the presence of sugar and a determination by the family physician as to the probability of diabetes being present.

Do this at once and carry a card on your person at all times, stating that you are a diabetic. You may become unconscious and receive the wrong treatment in an emergency, if it is not known. At the same time, have your blood typed, so that if you need a transfusion it may be given before it is too late.

Prepare to take care of yourself completely, if you are uninjured.

Find out where your Casualty Clearing Station is located and contact it at once if you need help, or want to give aid to others.

MEDICAL CIVIL DEFENSE BOOTH

The County physicians had a Medical Civil Defense booth in the Greater Cumberland Industrial Exposition, at the State Armory, October 16th to 18th, and Dr. Leslie E. Daugherty, Medical Civil Defense Director for Allegany County, announced the following committee was in charge: Dr. Oliver R. Roth, Dr. Clay E. Durrett, Dr. Arthur Jones and Dr. Leo H. Ley.

DR. ROTH TO ASSIST LOCAL DRAFT BOARD*

Dr. Oliver R. Roth, 202 Virginia Avenue, has been named medical advisor to Draft Board 27 in the Union Street County Building.

His appointment to succeed Dr. Earl Edgar Broadrup, 609 Kent Avenue, was announced today by Clerk Co-ordinator P. Emmett Fahey through Col. Henry C. Stanwood, state Selective Service director.

Fahey said Dr. Broadrup, who served the board since September 23, 1948, retired from medical practice August 23rd. Dr. Roth assumed his new duties September 5th.

The clerk co-ordinator also pointed out that draft registrants who get married or become fathers are required to notify their boards of such change in status as soon as possible.

Some young men are still waiting until they get notice for pre-induction physical exams before reporting a change in status. And this is causing a lot of wasted time and lost effort on the part of both Selective Service employees and the registrants themselves.

This is what Selective Service asks young men to do:

As soon as they get married they should write a letter to their draft board, reporting they are married, and enclosing a certified copy of the marriage license.

* From: The Cumberland Evening Times, September 18, 1952.

As soon as a registrant becomes a father he should write a letter to the draft board, reporting the birth of the child and stating whether or not he, the father, is maintaining a proper family relationship with the new baby. A copy of the birth certificate should also be enclosed.

BALTIMORE COUNTY MEDICAL SOCIETY

CHARLES H. WILLIAMS, M.D.

Journal Representative

REPORT OF THE EXECUTIVE COMMITTEE MEETING OF THE BALTIMORE COUNTY MEDICAL SOCIETY

A meeting of your Executive Committee was held Wednesday afternoon, June 4, 1952. The members of the Executive Committee are Dr. Charles H. Williams, Dr. Melvin B. Davis, Dr. Clewell Howell, Dr. David Andrews, Dr. Thomas Wheeler and Dr. Charles F. O'Donnell.

Invited guests and members of the County Medical Society present were Dr. Louis Dalmau, Dr. Wilmer Gallager, Dr. Vernon Langeluttig, Chief of Tuberculosis at Mercy and City Hospitals, Dr. Richard Hanchett, Chairman of the Radiologic Section of the Baltimore City Medical Society, Dr. Leon H. Hetherington, Chief of the Tuberculosis Section of the State Department of Health, Dr. Robert T. Hyde and Dr. William H. F. Warthen of the County Health Department.

The main topic discussed at the Meeting was the overall tuberculosis picture in our county and the general policies of the State Department of Health and the Maryland Tuberculosis Association with regard to tuberculosis.

The following conclusions were reached and are recommended in the form of a motion for adoption by this Society:

- 1) That the State Department of Health and the Maryland Tuberculosis Association follow the recommendations of last year's Committee on Tuberculosis. These recommendations have been passed by the Society and are merely a re-statement of our policy.
- 2) The physicians of the County be informed by letter that in the future no physical examinations

will be done in chest clinics except on request of a physician, and these requests should be limited to those to whom referral to a private chest specialist would work a financial hardship or for those to whom referral to hospital chest clinics are not desired.

- 3) Gastric washings and sputum collected only on physician's request with the same rules as apply in Point No. 2.
- 4) That the statement of the "State Department of Health policy set forth in September, 1951," with regard to free x-rays for employment be clarified to read free x-rays for those needing chest x-rays for employment by State, County or local Government agencies, not for private employment and in the future any private employers using State Department of Health x-rays or Maryland Tuberculosis Association x-rays for employment be so advised.
- 5) All x-ray reports from State Department of Health and Maryland Tuberculosis Association shall be mailed directly to the patient's private physician and it be the private physician's responsibility to carry on from that point.
- 6) In the future, the clinicians at the various chest clinics and x-ray only clinics will confine their activities to reading the x-rays and only examining chests on specific request of the private physician.
- 7) That the Radiologic Section of the Baltimore City Medical Society and all Roentgenologists throughout the counties be requested to discuss the advisability of having a special form which, when signed by a private physician, would entitle a patient to a routine chest x-ray for a fee of \$5.00.
- 8) That this Committee report, after approval of the County Society, shall be sent to the Secretary of the Medical and Chirurgical Faculty of Maryland, the Secretary of each county Medical Society, the Maryland Tuberculosis Association, the Baltimore County Public Health Association, the State Department of Health Director and the Chairman of the Committee to Advise the Health Department of the Medical and Chirurgical Faculty of Maryland. Also, that this report be sent to the *Maryland State Medical Journal* for publication.

HISTORY OF BALTIMORE COUNTY MEDICAL ASSOCIATION (AUTOBIOGRAPHY)

GEORGE C. MEDAIRY, M.D.*

This is my autobiography. It is now April 15, 1952, and I have attained my fifty-fifth birthday. When one gets that old and voluntarily divulges his age as a preliminary utterance, he is either loose tongued from "bottled-in-bond oratory" or else there is some distinguishing characteristic of his age which makes him proud and boastful. It is the latter reason for which I plead guilty and beg your indulgence on this, a unique and memorable anniversary. I am intensely human and yet with profound humility I willingly accept my earthly destiny as being of Divine Inspiration. Need I therefore apologize for my professional career which has as its founder, Christ the Divine healer, and humanity as the recipient of its charitable beneficences and skills? By the same token my life span now at 55 years becomes fuller, richer, more virile and useful in productive humanitarianism as the years accrue, and by the Grace of God, will continue as long as human life requires its ministrations in this county.

You know me in Baltimore County. Indeed I am known throughout the Maryland Free State as well as over this vast democratic nation. How well you know me, however, I am not aware.

My pre-natal life began as a product of man's greatest possession, his mentation. At the earliest moment in my gestation period I might properly have been designated as an "Idea," conceived in that intangible activity characteristic of the neuronal cellular architecture of the cerebral cortex which, for want of a better term has been called the Sensorium.

The particular sensorium in which I found my earliest being was that of Dr. Jackson Piper. In addition to those sterling qualities which are so necessary to the physician and which characterized his successful professional role in his community, Dr. Piper possessed a warmth and congeniality in his personal contacts, as aptitude for oratory and a keen sense of humor. With this type of personality integration, a sensorium can get somewhat crowded

and I knew that to gain the right to recognition and birth I would have to risk being considered a nuisance in my endeavors to bob up occasionally into his consciousness. Accordingly, I diligently studied the various tracts and commissures until I found the shortest distance to Dr. Piper's consciousness, a path which I traveled so frequently that I must have eroded it to the point of demyelination. At last on April 1, 1897, I was rewarded for my tenacity of purpose and became aware that my "birth" was near at hand for I learned that Dr. Piper sent to the physicians of Baltimore County an invitation to meet on April 15th to organize the "Baltimore County Medical Association." Their acceptance followed and I was born at 2:00 p.m. April 15, 1897. With just pride in this memorable occasion you must bear with me while I quote from the records the events of my birth and christening.

"On April 1, 1897 an invitation to the physicians of Baltimore County was issued by Drs. Jackson Piper, Towson; J. F. H. Gorsuch, Fork; R. C. Messenburg, Towson; R. Percy Smith, Sunnybrook; and H. Burton Stevenson, Riders, requesting all physicians in the County to meet them at Grange Hall, Towson, April 15, 1897 at 2:00 p.m. for the purpose of forming a County Medical Society. In response to the invitation the following physicians met at the above place and date: Jackson Piper, Towson; R. C. Messenburg, Towson; J. H. Jarrett, Towson; E. N. Brush, Sheppard Asylum; J. F. H. Gorsuch, Fork; H. Burton Stevenson, Riders; T. C. Peebles, Lutherville; William J. Todd, Mt. Washington; R. Percy Smith, Sunnybrook; William Lee, Stevenson; R. B. Benson, Cockeysville; J. E. Benson; Cockeysville; J. L. Ridgely, Rockdale; P. F. Sappington, Govanstown; L. Gibbons Smart, Roland Park.

Dr. Stevenson called the meeting to order, explained its object and placed in nomination as Temporary Chairman, Dr. Jackson Piper, who was elected. Dr. L. Gibbons Smart was elected Temporary Secretary, Drs. Messenburg, Lee, Todd, Brush and Gorsuch expressed their views as to the wisdom of forming a County Medical Society. A motion was made to appoint a committee of three to draft a Constitution and By-laws. Dr. Smart offered an amendment to make the Committee five instead of three; it was seconded and the amend-

* Historian, Baltimore County Medical Association.

ment carried. The chair appointed Drs. Stevenson, Peebles, Brush, R. Percy Smith and Messenburg, which committee retired.

Dr. Todd spoke of the business side of Medical Societies.

After an interval of some minutes, the Committee appeared with Constitution and By-laws. Before reading it, a motion was made by Dr. Brush and carried that the same Committee retire after adoption of the Constitution to name permanent officers. The Constitution and By-Laws as drafted by the Committee was then read by Dr. Stevenson, the Chairman, after which it was read by Sections, accepted, amended or altered by the association. Article I. Section I., of the adopted Constitution provides that this Society be known as "The Baltimore County Medical Association."

The Committee again retired to name officers. Dr. Brush, having left, Dr. Lee was appointed in his place on the Committee, which after consultation reported permanent officers as follows:

President:—DR. JACKSON PIPER

Vice-President:—DR. WILLIAM LEE

Secretary:—DR. L. GIBBONS SMART

Treasurer:—DR. WILLIAM J. TODD

Executive Committee: R. C. MESSENBURG; T. C. PEEBLES AND H. B. STEVENSON

Committee of Honor: CHARLES G. HILL; J. F. H. GORSUCH; R. PERCY SMITH.

All were unanimously elected for one year.

On motion of Dr. Stevenson, the Secretary was instructed to notify every member of the medical profession in Baltimore County of the time and place of the next meeting and invite them to be present. The Treasurer and Secretary were instructed to purchase what books they needed and have done whatever printing was necessary. At a late hour the Association adjourned, to meet in Towson on the third Thursday in May."

Signed: L. GIBBONS SMART, *Secretary*

I was weaned on the frivolity of the "gay nineties;" beheld the dawn of a new century and had just fallen into the prevailing pattern of indifference and complacency, born of a grandiose materialism, when I was rudely awakened by the sinister specter of the first world war. Shocked into a sober con-

sideration and evaluation of the meaning of human and spiritual values, I relaxed but reviewed with apprehension the increase of lawlessness, crime and delinquency during the "roaring twenties;" I staggered under the economic depression of the "thirties," from which I was slowly recovering only to be confronted with the dreadful curse of the Second World conflict of the "forties" in which I again took active participation; and I am now approaching the half-century mark in fear and trepidation standing on the brink of world chaos.

The present picture is heavily impregnated with such antisocial factors as distrust of neighbor, lust for power, avarice, jealousy, envy, relaxed moral code, uninhibited passions and utter disregard for the inalienable rights of others. It is frightening and we ask ourselves—have we surrendered our God-given Human dignity for the mess of pottage of unbridled Bestial instincts? One shudders to think of what widespread irresponsibility pervades a milieu entrusted as custodian to such a devastating power for destruction as atomic energy.

I have witnessed a kaleidoscopic procession of significant medical achievements in the fields of Immunology, Biochemistry, Physical Medicine, Surgery, Pharmacology, Hygiene and Public Health, Neuropsychiatry, Oncology, Therapeutics and Clinical Pathology. This presents a more wholesome utilization of man's intellectual faculty.

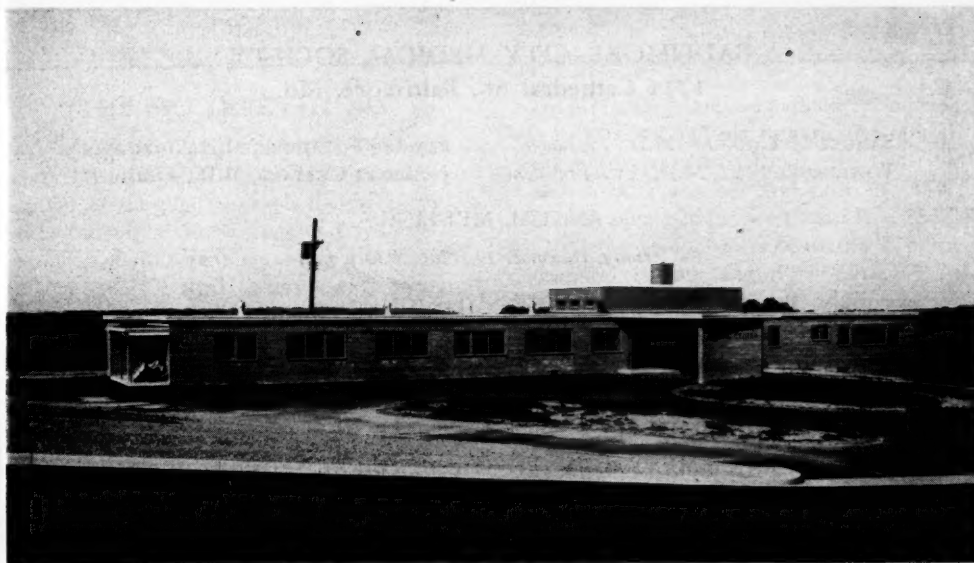
I am proud to be identified in a profession with such a glorious history and fortified with the strength, integrity and intellectual endowments of the renowned physicians who have been a part of my prodigious growth. I accept the challenge of the future for Baltimore County and for my State of Maryland.

ST. MARY'S COUNTY MEDICAL SOCIETY

J. ROY GUYTHER, M.D.

Journal Representative

Plans are progressing on the expansion program at St. Mary's Hospital. The architect reports that a wing adding 20 beds and the other necessary facilities will cost from \$125,000 to \$150,000. A fund raising drive is under way, and it is hoped that actual work will begin on the wing by the end of this year.



New Headquarters, Carroll County Health Department

CARROLL COUNTY MEDICAL SOCIETY

WILBUR H. FOARD, M.D.

Journal Representative

The Carroll County Medical Society met at Hoffman Inn, Westminster, Maryland, at 1:00 P.M., Wednesday, September 17, 1952. Two new members were received into the Carroll County Medical Society—Dr. Walton E. Stevens, who came to Taneytown, was received into membership at the June meeting, and Dr. William L. Stewart, who just recently moved to Westminster, was accepted into the society at the September meeting.

Two former members, Dr. W. V. Winiarz and Dr. Elizabeth Winiarz, formerly of Carroll County and Springfield State Hospital, have written that they have moved to Cambridge, Maryland. Dr. E. Winiarz is working for the State Health Depart-

ment. Dr. W. V. Winiarz is working for the Department of Mental Hygiene.

Our speaker for the meeting was Dr. Edwin Stewart, Jr., of Baltimore. A very interesting and profitable talk was given on Breast Lesions which was accompanied by colored slides.

The Carroll County Health Department has now moved from their old quarters on Main Street in Westminster into their new quarters which is located on the Washington Road, which overlooks the whole town of Westminster. The new quarters are quite spacious and up to date in every detail. The plans call for the setting up of a Branch Laboratory of the Maryland State Health Department which will occupy part of this building. Dr. Neil Gordon, the county health officer, stated that the Branch Laboratory will probably be in operation in a few months. This Medical Center was made possible by the contributions of the citizens of Carroll County as a memorial for veterans of World War II.

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FOR YOUR INFORMATION: NAME AND ADDRESS OF 2ND ARMY SURGEON

Capitol Clinic, A. M. A., Vol. 3, No. 29, July 23, 1952

2nd Army—(Delaware, Kentucky, Maryland, Ohio, Pennsylvania, Virginia, West Virginia)—Brig. Gen. Alvin L. Gorby, M. C. Headquarters, 2nd Army, Ft. George G. Meade, Md.

BALTIMORE CITY MEDICAL SOCIETY

1211 Cathedral St., Baltimore, Md.

SAMUEL McLANAHAN, M.D., *President*
 WETHERBEE FORT, M.D., *Vice-President*

EDWARD F. COTTER, M.D., *Secretary*
 J. ALBERT CHATARD, M.D., *Treasurer*

ANNUAL MEETING

Friday, December 19, 1952, 8:30 p.m.

BUSINESS SESSION

1. Report of Secretary.
2. Report of Treasurer.
3. Reports of Committees.
4. Report of Nominating Committee.
5. Election of Officers.
6. Election of New Members.

Abstracted reports will be distributed to the members.

JOINT MEETING WITH THE SURGICAL SECTION

SCIENTIFIC SESSION

Treatment of Certain Gastro-intestinal and Circulatory Disorders: Discussion of Controversial Medical and Surgical Measures. (Illustrated.) Keith S. Grimson, M.D., Professor of Surgery, Duke University Medical School; Surgeon, Duke Hospital, Durham, North Carolina. (By invitation.)

BUFFET SUPPER

* * * * *

HEALTH COMMISSION WITNESSES URGE MORE FUNDS, SERVICES AND FACILITIES

Capitol Clinic, A. M. A., Vol. 3, No. 28

Lay and medical witnesses, testifying at open hearings of the *President's Commission on the Health Needs of the Nation*, repeatedly stressed the need for more funds, more services and more facilities. Greater use of federal funds was recommended in several fields (see summary below). Testimony at the two days of hearings, the first to which the press was invited, came from a group of participants in earlier closed panel sessions. Commissioners questioned witnesses, but *the Commission itself took no action on the panels' recommendations*. Panel recommendations presented to the Commission included:

Rural health—A method "must be found" to finance medical education for rural youths and provide internships and proctorships in rural settings in order to develop general practitioners for rural areas. *Industrial health*—More uniform workmen's compensation laws are needed, as well as more research and training in social, occupational and environmental medicine and hygiene. *Environmental health*—Federal grants, research and information efforts should be extended to assure state and local improvement of environmental health services.

Health of the aging—Economic status of most older people is such that "adequate medical care can be provided them only through substantial use of public funds." *Care of the chronically ill*—In spite of savings from concentration on prevention, detection, control and rehabilitation, "it is probable that even larger sums, public and private, will be needed before care of chronic illness is comparable . . . to that given acute illness." *Mental health*—More psychiatric training of medical students; health groups such as Blue Cross should extend their coverage to include mental disorders. *Health of mothers and children*—Federal grants to schools for training of personnel in maternal and child health urged, including grants for students and for teachers' salaries.

Library

THE MCCLEARY FUND

Dr. Standish McCleary was born in Baltimore on January 19, 1870. After completing his preliminary education in the public schools and receiving his medical training at the College of Physicians and Surgeons of Baltimore, from which he graduated with high honors in 1890, he served as a resident at Bay View and Mercy Hospitals and, in 1894, entered private practice.

He was one of the outstanding leaders of the Medical and Chirurgical Faculty, having joined the Faculty in 1894 and for many years serving the Faculty as a member of the Council, holding the office of Vice-President in 1926.

As a member of the Faculty of the College of Physicians and Surgeons of Baltimore, he held the position of Associate Professor of Pathology and Demonstrator of Histology and Pathology and later served as Professor of Histology and Pathology. When the College of Physicians and Surgeons merged with the University of Maryland, he was elected to the position of Professor of Pathology. As a member of the College of Physicians Research Society, it has been said that for thirty years he never missed a meeting. He was held in such high esteem by his students that the 1916 yearbook of the College of Physicians and Surgeons was dedicated to him. Dr. William Royal Stokes, in describing the faculty in the yearbook, had this to say of Dr. McCleary:

"The versatile McCleary knows everything in sight

From dogs, antiques, and racing to where the fishes bite;

Bacteriologue and pathologue, clinician, sage and wit,

The only thing he does not know is how to sew and knit."

In one of the many tributes paid to Dr. McCleary, a fellow physician spoke of his devotion and fidelity to his friends, not only of his own period but also with those both younger and older than himself. He had a capacity for friendship that was rare and was kind and sympathetic, but none could be more severe in judgment of any wrongdoing in professional relations.

Dr. McCleary's skill as a pathological microscopist was well known and his authoritative opinion was often called upon for final judgment.

Before his death on November 19, 1934, Dr. McCleary requested his sister, Miss Rose McCleary, to give the sum of \$1,000 to the Medical and Chirurgical Faculty and the following is quoted from Miss McCleary's letter, which accompanied the gift: "That the income therefrom be devoted each year to the purchase of books and literature on the subject of Pathology and that if there is from time to time any accumulation of such income, it may be used by the Faculty for the giving of lectures on that subject."

Books purchased for this fund are marked, "Presented by the McCleary Fund," and the Faculty bookplate is used. We have a few of Dr. McCleary's personal bookplates, which he designed, and they are frequently on display.

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STOKES, W. R., The Faculty, in The Clinic, College of Physicians and Surgeons, Baltimore, 1916, p. 11

THE STOKES MEMORIAL FUND

On behalf of the Stokes Memorial Committee, Dr. Alexius McGlannan presented the Stokes Memorial Fund to the Medical and Chirurgical Faculty on April 29, 1931. The following is quoted from Dr. McGlannan's presentation address: "The interest from the Fund to be expended under the direction of the Council of the Faculty for a Memorial Lectureship on bacteriology or pathology or for books on similar subjects."

William Royal Stokes was born in Baltimore on August 21, 1870. He was educated at Deichmann's Gymnasium School and graduated in 1891 from the School of Medicine of the University of Maryland. He spent the following two years doing post-graduate work in histology and pathology at Johns Hopkins University. His zeal for knowledge in his chosen field led him to Boston, where he worked with Dr.

W. T. Councilman and became the Assistant Resident Pathologist at the Boston City Hospital under the direction of Dr. J. Homer Wright. He returned to Baltimore in 1895 and began his career of public health service. His first assignment was to reorganize the Department of Bacteriology of the City Health Department. He held the directorship of this department until his death on February 10, 1930, of psittacosis, which he contracted while performing autopsies on parrots that had died of the disease.

Dr. Stokes devoted many hours of his time to the advancement of medical education and public health. He was the Demonstrator of Anatomy at the Woman's Medical College, 1891-93; Assistant Instructor, Johns Hopkins Hospital, 1895-96; Lecturer on Bacteriology at the Baltimore Medical College, 1896-98; Associate Professor of Histology and Pathology, University of Maryland, 1898-00; Professor of Pathology and Bacteriology, College of Physicians and Surgeons, Baltimore, 1900-15. When the College of Physicians and Surgeons merged with the University of Maryland, he continued as the Professor of Bacteriology. In the field of public health he was recognized as an outstanding bacteriologist. His numerous contributions to the field of medicine were valuable and many of them were pioneer in character. In recognition of his scientific contributions, he was given the degree of Sc.D. from Washington College, Maryland, in 1910.

He was a prolific writer of scientific writings as well as poetry, an excellent teacher who possessed the rare ability to combine efficiency and charm, a distinguished scientist and a public servant, whose many years of faithful service ended in the sacrifice of his own life in carrying out his duty to protect the public. As a man he will be remembered for his kindness, cheerfulness and good fellowship.

The bronze memorial tablet in the Municipal Office Building is a lasting tribute from his fellow workers of the Baltimore City Health Department: "William Royal Stokes, M.D., 1870-1930

To the memory of an able physician and bacteriologist. A lover of art, music and poetry who died a martyr to the cause of science, contracting psittacosis (parrot fever) in line of duty."

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MEDICAL RESEARCH FELLOWSHIPS AGAIN OFFERED BY SCIENCE FOUNDATION

Capitol Clinic, A. M. A., Vol. 3, No. 34, August 26, 1952

National Science Foundation's second graduate fellowship program for academic year 1953-54 offers awards to medical students interested in careers in medical research; no awards to be made for study in clinical medicine. NSF said majority of awards under the program will be made to graduate students seeking master's or doctor's degrees in sciences. Stipends will range from \$1,400 for first year fellows to \$3,400 for postdoctoral fellows. Application forms will be available after October 1, 1952 from National Science Foundation, Washington 25, D. C. Nearly 600 fellows will be studying under the NSF program for this fall.

Health Departments

CONSERVATION OF HEARING IN THE COUNTIES

EDWARD DAVENS, M.D.*

For several years Crippled Children's Services in the State Health Department, in cooperation with an interested group of otolaryngologists and the family physician, has been interested in the prevention of deafness among children in the counties of Maryland. The principal effort has been to encourage public health coordination of the variety of services needed by children who are hard of hearing or who are suffering from conditions which may lead to impaired hearing. Interest in this problem goes back as far as 1924 when the Baltimore City Department of Education started routine hearing tests of school children and in 1927 made arrangements with a Baltimore otolaryngologist for follow-up diagnosis and treatment. In 1930 the clinical part of the program was undertaken by the Baltimore City Health Department.

Somewhat later similar action was taken in the counties of Maryland. The State School for the Deaf, cooperating with the State Department of Education undertook audiometer testing of elementary school children, but there was a considerable lag between this case finding effort and the provision of specialized clinic service. The first county clinic was started in Cumberland, Maryland, as a cooperative undertaking of the State Department of Education, the Allegany County Health Department, and the American Legion.

In 1942 the Washington County Hearing Program was inaugurated by the county health department to see what could be done on a community wide basis in the prevention of deafness. The success of this undertaking and the studies made there have helped to stimulate the growth of interest elsewhere until at the present time all of the counties have at least some of the services needed.

* Chief, Bureau of Preventive Medicine, Maryland State Department of Health.

NATURE AND EXTENT OF PROBLEM

The principle of prevention of deafness rests upon the now accepted fact that in most instances hearing impairment follows upon respiratory or ear infections in early life. Moreover, these infections are amenable to therapy by present methods. A study (1) of the Hagerstown figures showed that in four of every five children with impaired hearing, the difficulty was traceable to respiratory or ear infections. Analysis of 663 patients with hearing impairment revealed that in 83% the impairment was attributable to ear or respiratory infections. This means that in only one of every five is the deafness not preventable.

Statistics on the prevalence of hearing loss are plentiful, although variability factors have caused some difficulty in interpretation. These factors include method of testing, frequency of calibration of the instruments, criteria for screening, acoustic conditions of the testing room, presence of acute ear disease or blockage of the auditory canal, and the factors inherent in any subjective test (2). Analysis of the numerous studies supports the view of the American Hearing Society which states that 5% of children have hearing *sufficiently impaired to warrant further study*. This means that in the State of Maryland there are 17,220 school children actually enrolled in public and non-public schools who would be benefited by careful medical and audiological evaluation of their hearing status.

The best estimate of the numbers of school children whose hearing is *sufficiently impaired to require special educational measures* is from 1.5 to 3% of the enrollment (3). If we take the lower figure, this means 5,166 school children already have a handicapping loss of hearing.

In the recent Harford County study (4) from a total school population of approximately ten thousand, 995 children of school age were referred to the hearing clinic by family physicians or as a result of audiometric screening in the school. Of these cases, 161 or 16% were found to have no significant ab-

normality; 801 cases or 81% had conduction deafness; and 33 cases of 3% had nerve deafness. Among the 801 cases of conduction deafness, temporary hearing loss due to wax and acute upper respiratory infections accounted for only 89 cases. The remaining 712 had chronic deafness associated with a history of previous upper respiratory infections.

PUBLIC HEALTH ASPECTS

The hallmark of this particular disability is its essential *preventability*. Primary prevention may be achieved through better control of certain communicable diseases such as meningitis, mumps, and rubella (in pregnant women) and secondary prevention through early diagnosis and adequate treatment of infections and allergic diseases of the middle ear during preschool and early school years.

Another characteristic of this condition is the frequency of occurrence and the insidiousness of development. In the Harford study no less than 834 children or 8.34% of the total school enrollment were found to have a definite hearing impairment after careful clinical study.

Progress in the field of audiology and the remarkable development of new electronic instruments for research, clinical procedures, and individual hearing aids have tremendously widened the horizon of what can be done to prevent hearing impairment in childhood. Also improved is the chance of maximum utilization of the residual hearing by the use of new type hearing aids and the development of auxiliary methods of communication. Major advances in medical treatment include improved surgical procedures, the use of radium and x-ray, and an impressive list of new drugs.

In addition to the medical and audiological treatment, there are a wide variety of other services which are needed before it is possible to provide optimum total care for all children with hearing loss. Some of the needed services in a conservation of hearing program follow: (a) continuous observation by informed physicians, nurses, teachers, and parents for suspicious symptoms of hearing loss; (b) routine audiometric testing of school children by trained personnel; (c) diagnostic clinics employing an integrated approach between pediatrician, otolaryngologist, clinical audiologist, and speech pathologist; (d) medical and surgical treatment by family physician or specialist; (e) hospitalization;

(f) public-health-nursing services for follow-up and interpretation to the family and classroom teacher; (g) medical-social services to help in solving the numerous emotional, environmental, and social factors which interfere with treatment or acceptance of treatment in some cases; (h) psychiatric or mental-hygiene clinic services, (i) provision and fitting of hearing aids and training in their use, (j) special education services in the schools, including speech reading and speech training, and last but not least, (k) vocational rehabilitation services for job counseling, training, and placement.

In many of the more complex cases several of these services are needed by a single child in order that any one service will be effective. For example, referral to a psychiatrist or a mental hygiene clinic may be necessary, before it is possible to succeed in making best use of a needed hearing aid.

CASE FINDING

From the preventive standpoint, the early location of children with hearing loss or with conditions which may lead to it is of fundamental importance. The best method is the thoughtful observation of parents, physicians, nurses, and teachers who have developed a low threshold of suspicion for suggestive symptoms of hearing impairment. The Health Department has available a screening guide for the detection of hearing impairment in preschool children.

In the school health program screening technics are being emphasized jointly by the departments of education and health. Most effective of these methods is the so-called "daily teacher observation of school children" by the classroom teacher who is in a strategic position to note significant changes in behavior. Periodic teacher-nurse consultations is another method now in use.

A more objective method routinely used in all of the counties is the examination of school children by the pure-tone audiometer, where the audiometrist is, preferably, a specially trained employee of either health or education department. The precise selection of grades to be tested varies with local circumstances; usually alternate grades are tested every year. The test procedure is called the "sweep-check." The attenuator-control of the instrument is kept at 15 decibels. The test is begun with the frequency-selector set at 1000 cycles; if the pupil can

hear this tone (indicated by raising his index finger), the technician turns the tone control to 2000 cycles and so on up to the highest frequency. This procedure takes about a minute and a half for each child. After each class has been screened, the technician rechecks the children who have failed. These children are tested much more carefully and in much greater detail. A manual of "Recommended Procedures for Audiometric Testing" is available from the Division of Crippled Children, State Department of Health.

DIAGNOSIS AND TREATMENT

Conservation of Hearing clinics are now sponsored by all of the county health departments although the frequency varies greatly. Some of the more distant rural areas may have as little as three clinic sessions a year while the larger counties less distant from Baltimore have a more frequent schedule.

From the beginning, the clinical procedure has been greatly influenced by the work of Crowe (5), who has shown "that impaired hearing in children, whatever the primary cause, is almost invariably complicated to a greater or less degree by partial Eustachian tube obstruction, secondary to hypertrophied lymphoid tissue in the nasopharynx . . . that this lymphoid tissue may impair the function of the Eustachian tubes and cause a low grade tubo tympanic catarrh, which may lead to chronic progressive deafness . . . and that this lymphoid tissue is so sensitive to radiation that the dosage employed in the treatment of the nasopharynx is far below the amount that could cause any irritation or injury to the mucous membrane, (and therefore radon treatment) may be used for the sole purpose of reducing obstructing nodules of lymphoid tissue, decreasing the secretion of mucus, and restoring the normal ventilating function of the Eustachian tubes."

Another recent and significant influence in the clinical setting has been the introduction of teamwork between the otolaryngologist and the clinical audiologist. The latter may be defined (6) as the specialist who "treats communicative disorders caused by hearing disability. This is rehabilitative treatment designed to help the individual achieve optimum results in the use of communicative skills; the specific clinical objective is to help him learn

new communicative skills to supplement or replace his faulty hearing mechanism. So far as permanent hearing disability is concerned, the point of treatment is not the ear alone but the whole person, his psychosocial behavior, his use of language, and his ability to take a normal part in his community to the extent of his potentialities. Because a permanent hearing disability (usually generalized as a hearing loss in excess of 35 decibels for the speech-hearing function) interferes with normal communication, it usually involves behavior changes that are detrimental to the individual's well being."

From the otologic standpoint the principal emphasis is placed on accurate diagnosis of the type and cause of the defect in the hearing mechanism and the choice of medical or surgical therapy which will restore the function of the ear or prevent further extension of the pathologic process. Diagnosis includes a careful history; ear, nose, and throat examination; nasopharyngoscopic visualization; and tests involving pure-tone and speech audiometry as well as the classical tuning-fork tests. Radon irradiation of the nasopharynx when indicated (approximately 45 per cent of cases) is the only treatment performed in the clinic.

For other needed therapy the patient is referred to the private physician. Most frequent recommendations for treatment include tonsillectomy and adenoidectomy, mastoidectomy, sinus surgery, submucous resection, and management of allergic disease.

Every effort has been made to achieve thoughtful community planning both prior to establishing this program and on a continuing basis. In the case of school-age children, details of case-finding procedures, notification of parents, clinic appointments, follow-up by the public health nurse, special education in the school and vocational rehabilitation services are worked out by the county health officer and the superintendent of schools. Policies regarding such matters as radium treatment in the clinic, notification to private physicians of diagnostic findings, referral recommendations to the family physician for therapy, financial assistance with hospitalization and surgical treatment for patients unable to pay are all discussed and mutually agreed upon by the county medical society, county health department, and the otolaryngologist who conducts the hearing clinic.

A close working relationship has been established between the county hearing program and the audiological center at Johns Hopkins Hospital—the Speech and Hearing Center. Cases requiring more intensive audiologic work-up are referred, particularly young preschool children, those with organic brain damage, and those with questionable hearing loss (psychogenic deafness). The use of the new objective psycho-galvanic audiometry has been invaluable in providing a more accurate diagnostic appraisal. When a hearing aid is indicated, this is carefully fitted by various tests without commercial implications. Special auditory training is then instituted in order to teach the child and his parents how to use the aid, and limited psychotherapy is used to help him in the adjustment. For more severe emotional problems or psychogenic deafness, psychiatric consultation is requested. In order to compensate further for his hearing loss the child and his parents are introduced to the principles of speech reading. The mastery of this technic, of course, takes several years and must be continued by special teachers in the school.

SPECIAL EDUCATION AND VOCATIONAL REHABILITATION

Concurrently with the development of case finding measures and provisions for diagnosis and medical follow-up the schools have been quick to see the need for adding qualified speech correctionists to the staffs of the county schools, so that assistance can be given to the classroom teacher and special tutoring to individual pupils who need help to overcome the handicap imposed by hearing loss and the associated speech difficulty. There are now about twenty such speech correctionists employed in the county schools where just a few years ago there were none.

After all medical measures have been tried, there are found to be a number of children who continue to have some residual communicative disability. These boys and girls need vocational rehabilitation services, including counseling and guidance, voca-

tional training, compensation adjustment, maintenance during training, and placement in employment. For this purpose prompt referrals are made at the age of sixteen years to the Vocational Rehabilitation Service in the State Department of Education.

SUMMARY

A brief description of the purpose and content of the County Conservation of Hearing program has been given.

Attention is drawn to the primary focus on prevention of hearing impairment rather than salvage of handicaps which need never have occurred.

An estimate of the numbers of Maryland school children with hearing impairment is suggested, and the point is made that recent studies in Harford County indicate that the estimate may be too low.

The case-finding value of observation by alert and informed parents, physicians, teachers, and nurses is stressed, and the method of audiometric testing in the schools is described.

The part played by the diagnostic hearing clinics and the close working relationship with the audiological center in Baltimore are outlined.

The variety of auxiliary services needed by children with hearing loss is described and special mention is made of special education in school and vocational rehabilitation.

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STATE OF MARYLAND DEPARTMENT OF HEALTH
MONTHLY COMMUNICABLE DISEASE REPORT

Case Reports Received during 4-week Period, October 3-30, 1952

	CHICKENPOX	DIPHTHERIA	GERMAN MEASLES	HEPATITIS, INFECT.	MEASLES	MENINGITIS MENINGOCOCCAL	MUMPS	POLIOVELITIS, PARA- LYTIC	ROCKY MT. SPOTTED FEVER	STREP. SORE THROAT INCL. SCARLET FEVER	TYPHOID FEVER	UNDULANT FEVER	WHOOPING COUGH	TUBERCULOSIS, RESPIRATORY	SYPHILIS, PRIMARY AND SECONDARY	GONORRHEA	OTHER DISEASES	DEATHS Influenza and pneumonia
Total, 4 weeks																		
Local areas																		
Baltimore County.....	5	—	1	1	2	—	3	7	—	7	—	—	1	15	—	15	—	5
Anne Arundel.....	2	—	—	—	1	—	1	2	—	2	—	—	—	4	—	8	—	1
Howard.....	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Harford.....	1	—	—	—	—	1	1	—	—	—	—	—	—	6	1	m-2	—	1
Carroll.....	2	—	—	—	2	—	—	1	—	—	—	—	—	—	2	2	—	—
Frederick.....	6	—	1	—	9	—	1	7	—	9	—	—	—	2	1	1	—	—
Washington.....	4	—	—	—	—	—	—	1	—	—	1	—	—	10	—	—	—	1
Allegany.....	1	—	—	—	—	—	—	—	—	—	—	—	—	3	—	—	—	2
Garrett.....	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—
Montgomery.....	4	—	1	—	1	1	6	11	—	3	—	—	—	10	—	1	—	4
Pr. George's.....	2	—	1	—	—	1	3	6	—	1	—	—	2	12	1	4	—	2
Calvert.....	—	—	—	—	—	—	—	—	—	—	—	—	—	4	—	—	—	1
Charles.....	1	—	—	1	—	—	—	—	—	—	—	—	—	1	—	1	—	—
Saint Mary's.....	—	—	—	10	—	—	—	—	—	2	—	—	—	2	—	—	—	—
Cecil.....	—	—	—	—	—	—	—	—	—	—	—	1	—	3	—	—	—	1
Kent.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Queen Anne's.....	—	—	—	4	—	—	—	1	—	—	—	1	1	1	—	—	—	—
Caroline.....	—	—	—	—	—	—	2	—	—	—	1	—	—	—	—	3	—	—
Talbot.....	—	—	—	1	2	—	—	—	—	—	—	—	—	1	—	—	—	2
Dorchester.....	1	—	—	—	—	—	2	—	—	—	—	—	—	—	1	2	—	1
Wicomico.....	2	—	—	—	—	—	—	—	—	—	—	—	—	4	—	7	—	1
Worcester.....	—	—	—	—	—	—	—	1	—	—	—	—	—	3	—	—	—	—
Somerset.....	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	1
Total Counties.....	31	0	5	17	17	3	19	37	0	24	3	2	4	83	6	45	—	24
Baltimore City.....	20	0	1	6	10	1	19	10	0	32	1	0	6	93	11	639	c-1	14
State																		
Oct. 3-30, 1952.....	51	0	6	23	27	4	38	47	0	56	4	2	10	176	17	684	—	38
Same period 1951.....	55	1	8	8	285	3	39	18	1	50	1	1	30	210	26	690	—	34
5-year median.....	47	8	3	—	22	5	34	29	1	43	4	2	87	188	80	651	—	38
Cumulative totals																		
State																		
Year 1952 to date.....	2790	8	842	207	9100	77	957	174	29	902	20	15	177	2304	169	7380	—	552
Same period 1951.....	2775	35	854	201	5700	49	3621	67	40	791	17	25	391	2320	277	6382	—	416
5-year median.....	3093	164	388	—	2936	102	1247	133	56	936	31	36	1119	2349	1095	6505	—	562

c = congenital syphilis under 1 year of age.

m = malaria contracted outside the U. S. A. reported by Aberdeen Proving Grounds, residence not stated.

There were no significant changes in the incidence of communicable diseases during the 4-week period ending October 30, 1952.

Blue Cross and Blue Shield

BLUE CROSS AND BLUE SHIELD

REGINALD H. DABNEY*

There has been much discussion of the service benefit feature of Blue Shield—what it means, how it operates, whether it is good or bad. This unique feature of the Blue Shield Plan is one of its most important elements and is the single factor which differentiates it from commercial insurance.

Like its companion Blue Cross in the hospital field, Blue Shield is incorporated as a voluntary, non-profit organization to provide medical care to the citizens of the community. Its establishment here and throughout the nation stems from the need to protect the individual family, especially in the middle and lower income brackets, from the often disastrous impact of large medical expenses. The agreement by the participating physician that he will accept a specified amount as payment in full for his services to subscribers in the middle and lower income levels enables this group to budget their medical care through a prepayment program, thus minimizing the financial effect of unexpected illness. For persons in higher income brackets, the benefits provided help tremendously in meeting medical bills.

The public acceptance and demand for Blue Shield is best evidenced by the phenomenal growth in membership since the end of World War II. In December 1946, there were 1,800,000 subscribers in all Blue Shield Plans; in June 1952, there were 23,000,000 members in the country enrolled through seventy-eight Plans sponsored by state and county

* Executive Director, Maryland Hospital Service, Inc. and Maryland Medical Service, Inc.

medical societies. All of these Plans must meet certain standards for approval established by the Council on Medical Service of the American Medical Association, and membership standards adopted by the National Association of such Plans, the Blue Shield Medical Care Plan Association.

Obviously, the establishment and success of a service benefit Plan rests primarily with the physicians in the local area who sponsor and participate in the program. The increasing recognition of the need for the service feature is evidenced by the fact that today, sixty out of the seventy-eight Blue Shield Plans are operating on this basis, with income ceilings ranging up to \$6,000, and a majority of the eighteen Plans still on an indemnity basis are seriously considering the addition of service benefit provisions.

Basically, your Blue Shield Plan is a community service program, under the control of the physicians in the State, and with public representation on its governing board. Every licensed doctor of medicine has the right—and is urged—to participate, the subscriber is at all times free to choose the doctor who will serve him, and the personal relationship between the patient and the physician is maintained. Any program of this kind designed to serve a great number of people has its shortcomings and problems, but these can be reduced and eliminated through cooperative effort over a period of time. The fact remains, as Dr. Houston Everett said in his statement in the July issue of the Journal entitled "Support the Blue Shield," that "... the profession of the State has again taken a constructive step in combatting the threat of socialized medicine."

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PUBLIC HEALTH SERVICE DOCTORS LOSE MILITARY STATUS

Capitol Clinic, A. M. A., Vol. 3, No. 29, July 23, 1952

Deletion of a section of the Emergency Powers Continuation bill in the closing days of Congress has shifted members of the commissioned corps of Public Health Service from military to civilian status. According to the PHS legislative representative, the change will mean that PHS doctors will be denied (a) uniform allowances (b) survivors benefits (c) death gratuity and (d) all other military benefits not specifically provided by law under the PHS Act. However, they will continue to receive the special \$100 per month pay, may still discharge their military obligation by service in PHS and may not now be required to remain in PHS.

Woman's Auxiliary to the Medical and Surgical Faculty

MRS. GEORGE H. YEAGER, *Auxiliary Editor*

SEMIANNUAL LEGISLATION REPORT

MRS. H. HANFORD HOPKINS, *Chairman*

The Keogh-Reed Bill, now before the House of Representatives, deserves our enthusiastic support! It represents an effort to alleviate the unfair tax burden carried by doctors and the other independent citizens who, by their own request, were not placed under "Social Security."

According to the provisions of the Bill, self-employed individuals such as doctors, lawyers, dentists, and farmers, may set aside in a trust fund a *certain percentage* of earned income each year. This has the immediate effect of reducing their current income tax! The trust fund, however, must remain inviolate, except in cases of total disability, until the individual reaches the age of sixty-five years. At sixty-five an income tax would be paid on the trust fund at the prevailing rate.

If you and your husband approve of the Keogh-Reed Bill write to your Representative in Washington in favor of it! Good legislation with a positive approach to economic problems is rare and is worthy of action on our part!

The following newspaper article by George E. Sokolsky explains the imminent danger of that insidious thing, legislation on an "international" plane, by which American Fabians and other people who wish to plan our lives, seek to supersede our Constitution and National Sovereignty, so that they can impose socialism, and other degrees of communism on us from without against our will.

"SOCIALIZED MEDICINE BY TREATY"

"At the meeting of the International Labor Organization in Geneva, Switzerland in June a convention entitled "Minimum Standards of Social Security" was passed. This convention was submitted to 65 countries, including the United States, for ratification. Once ratified by any country the convention

becomes a treaty binding that country to its provisions.

HOW IT BECOMES LAW

Under the American Constitution, if two-thirds of the members of the United States *Senate*, only, present ratify such a convention, it becomes the law of the land, taking precedence over any domestic law passed by Congress or by any State legislature.

The United Nations and an increasing number of *international* organizations, passing conventions and covenants, are really for the American People without their knowledge of what is being done to them.

This convention establishes universal socialized medicine.

Part II of the convention contains the following provision:

"Each member for which this part of this convention is in force shall secure to the persons protected the provision of benefit in respect of condition requiring medical care of a preventive or curative nature.

"The contingencies covered shall include any morbid condition, whatever its cause, and pregnancy and confinement and their consequences."

This is state medicine. The document is a long one. It is clear that should the United States ratify this convention, government hospitalization, government-controlled attendance of physicians, and government-provided medication would be required by law. Oscar Ewing's measures, which Congress has rejected, would become law, without an act of Congress so providing, but by the ratification of a treaty, the title of which does not indicate its nature. It could be passed without Senators even reading it.

DOCTORS OBJECT

Doctors all over the world objected to these provisions.

Most of the American Government delegates followed the lead of the labor delegates in voting for socialized medicine. Their argument seemed to be

that if they voted differently they would be accused of being personally *antilabor*.

This measure may come before the Senate at its next session and requires scrupulous scrutiny and fearless opposition."

AUXILIARY NEWS

Three resolutions were passed by the Woman's Auxiliary to the Medical and Chirurgical Faculty at the Semiannual Meeting. They included (one) advocating active Auxiliary support for the American Medical Education Foundation, (two) pledging Auxiliary help to The Ballot Battalion in getting out the vote, and (three) a vote of thanks to the doctors' wives of the Eastern Shore who, for the *second time*, worked so hard to make our meeting a success.

The Woman's Auxiliary to the Montgomery County Medical Society held their Autumn Dance at the Kenwood Country Club, in Bethesda, on October the twenty-first.

The Woman's Auxiliary to the Baltimore City Medical Society reports that Mrs. Howard B. Mays secured the use of doctors' offices as places for voting parents to leave children while they went to the polls on November fourth.

Mrs. Edwin H. Stewart, Jr., Chariman of Nurse Recruitment for the City Auxiliary proposed the making of a film featuring the Baltimore Hospital Schools of Nursing to a meeting of Hospital Directors, Directors of Nursing and members of the Medical Society, on September nineteenth. Her idea was favorably received and an Executive Committee is now working on details of costs, etc., which are probably to be divided among the participating hospitals.

Mrs. Henry W. D. Holljes, Co-Chairman on Nurse Recruitment for the City, has sent a letter to each hospital Auxiliary in Baltimore suggesting that perhaps they could increase their hospitals' supply by providing a Hospital Day-Nursery for their pre-school children, by pooling the work and hours of part time nurses, and by polling all their graduates,

or nurse employees, as to which hours they *could* give to duty. Mrs. Holljes included an article from the June issue of the Maryland State Medical Journal on the establishment of a day-nursery for nurse's children at the Washington County Hospital, data from The Board of Education, and a list of recommended books on the subject, with her letter. She felt that these tools would assist any Hospital Auxiliaries interested in the program.

AMERICAN EDUCATION

Any Auxiliary or other organization dedicated to American principles of government would enjoy a meeting featuring the slapboard presentation of The Freedom Forum given by the Junior Association of Commerce, American Opportunities Committee! If you belong to any group that wants a program that is dramatic, compelling and full of encouragement, write to Mr. J. Ross Myers, III, American Opportunities Committee, Junior Association of Commerce, 22 Light Street, Baltimore 1, Maryland. Mr. Myers explains why no "ism" can offer anything approaching the way of our fathers. He will inform you whether the Freedom Forum presentation, "This Is Our Problem" is available through your local Junior Association of Commerce, or may send a speaker, where possible, from Baltimore. He spoke at the October first meeting of the City Auxiliary, and many members have asked whether he would speak to other organizations.

If you want to help insure America's future in our schools read the new economics text "Understanding Our Free Economy" and see that it is placed in *your* high schools! It is the first widely admired, scholarly, book to penetrate the Fabian front and expose the failures of Socialism in the New Deal and Fair Deal!

Required reading for Americans,—have you gotten around to Whitaker Chambers' "Witness"? It is a literary masterpiece as well as a call to "eternal vigilance" for us all.